

# Nicor Gas Energy Efficiency Plan

## January 2018-December 2021



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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 Costs		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.
Demand-Side Management	DSM	Actions that help customers to reduce their energy consumption.
Discount Rate		The rate by which future values are converted to today's dollars.
Emerging Technology		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.

Term	Acronym	Definition
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.
Home Energy Rating System	HERS	A standardized system for rating the energy-efficiency of homes, which results in the HERS Index score for each home. A home built to code scores a HERS Index of 100, while a net zero energy home scores a HERS Index of 0. Each 1-point decrease in the HERS Index corresponds to a 1% reduction in energy consumption compared to the reference home.
Home Performance with ENERGY STAR™	HPwES	An energy efficiency program developed by ENERGY STAR for the home retrofit market.
Illinois Commerce Commission	Commission	Illinois regulatory agency.
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	IMC	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.
Investor-Owned Utility	IOU	A utility owned by private investors, as opposed to one owned by a public trust or agency; a commercial, for-profit utility as opposed to a co-op or municipal utility.
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 means a residential Customer of a participating utility with a household income at or below 80 percent of area median income (AMI).
Leadership in Energy and Environment Design	LEED	One of many green building programs that encourage architects, building designers,

Term	Acronym	Definition
		contractors and builders to construct energy efficient buildings.
Market Potential Study	MPS	An evaluation of the amount of energy efficiency available over a certain time period in a specific geographic area.
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		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 energySMART.
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 <sup>st</sup> through May 31 <sup>st</sup> . However, as a result of recent legislative changes energySMART will operate over calendar years.
Program Administrator Cost Test	PACT	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 Test	PCT	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.

Term	Acronym	Definition
Rider 29		The tariff rider that allowed Nicor Gas to begin to offer energy efficiency programs in 2010.
Rider 30		The tariff rider that allowed Nicor Gas to begin to offer energy efficiency programs in current program cycle per state law Section 8-104.
Rate Impact Test	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 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 fourth Energy Efficiency Plan (“EEP” or “plan”) branded as energySMART, a Nicor Gas Program (“energySMART”) in compliance with the requirements of Section 8-104 of the Public Utilities Act (the “Act”). This is the Company’s first four-year plan filing as required by newly enacted Illinois legislation - The Future Energy Jobs Act (“FEJA”), Public Act 99-0906. The comprehensive portfolio presented in this document will allow Nicor Gas to continue partnering with customers to lower their energy usage, resulting in reduced costs, improved cash flows, increased building comfort and reduced emissions. The plan will also provide lasting benefits throughout Northern Illinois by creating jobs, increasing productivity, expanding opportunities for businesses selling energy efficient products and services, advancing diversity and helping communities meet environmental goals.

In developing the EEP, Nicor Gas built upon the firm foundation and strategy that the EEP has developed over the past seven years, thereby allowing Nicor Gas to leverage the infrastructure and processes already developed and proven successful. Over this period, Nicor Gas has built into the portfolio a wealth of market intelligence gathered from customers, trade allies, implementation contractors, and partner utilities in Illinois and throughout North America. In addition, Nicor Gas looked to input provided by key stakeholders regarding the contours of and expectations for this EEP. Nicor Gas engaged with stakeholders regarding the EEP through the normal course of meetings with the Illinois Stakeholder Advisory Group (“SAG”), and also in lengthy discussions focused on reaching consensus on the portfolio of energy efficiency programs to be implemented by Nicor Gas in this EEP. Nicor Gas reached consensus regarding this EEP with the Commission Staff (“Staff”), the Illinois Attorney General’s Office (“AG”), and the Natural Resources Defense Council (“NRDC”). 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 energySMART plan and the commitments made in the Stipulation, the terms of the Stipulation shall apply.

During the four years of the plan, which runs from January 2018 through December 2021, energySMART will invest approximately \$161 million to help customers install more than 900,000 energy efficiency measures and over 136,000 energy efficiency retrofit and technical assistance projects in homes and businesses across the Nicor Gas service territory. The plan helps customers save over 66 million net therms during the program cycle and approximately 852 million net therms over the lifetimes of the installed measures and projects. These represent cost effective investments for Nicor Gas customers: at the portfolio level, the benefit-cost ratio from the Illinois Total Resource Cost (“TRC”) perspective is 2.46, producing net benefits of over \$400 million to homeowners, renters, large and small businesses in Nicor Gas service territory.

Taken together with Nicor Gas efforts in previous years, by the end of this next plan cycle, the total cumulative investments are approximately \$370 million funding energy efficiency programs that have helped customers save over 145 million net annual therms and over 1.8 billion net

lifecycle terms, and supported over 5,000 jobs annually<sup>1</sup>. To put this in perspective, the savings in annual carbon emissions associated with these investments are equivalent to the annual reductions from removing 164,720 cars from the road, meeting energy needs of 82,324 households for one year or planting approximately 20 million trees<sup>2</sup>.

Table 2 below outlines planned investment and savings targets. Consistent with the requirements of the Act, Nicor Gas will implement energySMART programs on a calendar year. This multi-year EEP covers the four years starting January, 1, 2018 through December 31, 2021.

As a result of FEJA, energy efficiency programs previously administered by the Illinois Department of Commerce and Economic Opportunity (the “Department”) such as low-income and public sector programs and Market Transformation initiatives are now administered by Nicor Gas. The Act requires spending at least 10 percent of the total energy efficiency budget serving public sector, up to 5 percent towards Market Transformation. Further, FEJA requires Nicor Gas energy efficiency spending for low-income measures must at least be proportionate to the share of total annual gas utility revenues in Illinois from households at or below one-hundred and fifty percent (150%) of the poverty level within the Nicor Gas territory. In addition to the proportionate spending requirement, the FEJA requires that the Nicor Gas EEP low-income programs target customers in households with incomes at or below eighty percent (80%) of Area Median Income.

**Table 2 Energy Efficiency Plan Investments and Savings**

Thousands	2018	2019	2020	2021	Total*
<b>Nicor Gas</b>					
Spending	\$40,139	\$40,139	\$40,139	\$40,139	\$160,555
Annual Therm Savings	16,510	16,510	16,510	16,510	66,039
Lifecycle Therm Savings	213,084	213,084	213,084	213,084	852,336
<b>Self Direct Customers</b>					
Spending**	\$3,300	\$3,300	\$0	\$0	\$6,600
* Column sums may not match totals due to rounding to thousands					
** Assuming 22 self-direct customers spending \$150,000 per year (2*22*150K=\$6.6 MM). Zero self-directing customers in 2019 and 2020					

Finally, Section 8-104(m) of the Act allows certain large manufacturing businesses to “self-direct” their energy efficiency contributions outside of the Nicor Gas portfolio. During the next plan cycle, 22 large businesses have chosen to self-direct, representing approximately \$6 million in additional energy efficiency investments that will be implemented by these businesses

<sup>1</sup> Nicor Gas energySMART Economic Impact Report

<sup>2</sup> Calculation based on EPA Calculator at <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

independent of the EEP. The Act does not require these customers to develop savings goals associated with their self-directed activities.

Overall, Nicor Gas customers (homeowners, renters, small and large businesses) will invest over \$167 million supporting energy efficiency during the next plan cycle, including activities directed through energySMART, and self-direct customers. These investments are expected to improve customer's efficiency in Nicor Gas territory by 16.5 million therms per year and approximately 213 million lifecycle therms, not including additional savings created by the self-direct customers.

## **1.2 Nicor Gas energySMART Portfolio Features**

energySMART is designed to align with an overall marketing strategy in place since the inception of PY4. The portfolio is comprised of eleven programs; with all 11 programs featuring several customer participation offerings that are aligned with a customer-centric delivery approach and varying degrees of penetration. Essentially, the programs have been streamlined to match the marketing and outreach strategy that more naturally resonates with our target audiences. The eleven programs include five residential programs, five business programs and an additional program for the Income Qualified segment. Nicor Gas has identified 300 specific energy efficiency measures (Appendix A) offered to the customers through the programs, which also include custom pathways for customers to install additional measures not specifically identified in the plan. The portfolio also funds investment in essential portfolio functions necessary to deliver the portfolio, including; Marketing and Outreach; Program Administration; Evaluation, Measurement and Verification; Information Technology, Data Analytics; and Emerging Technologies and Market Transformation.

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

- Residential single family and multi-family homes (including income qualified residents)
- Large and small businesses (including public sector)
- Customers in existing buildings as well as builders (and customers) constructing new homes and facilities
- Owners, renters and landlords
- Customers replacing equipment as well as customers retrofitting or operating existing equipment
- Customers interested in comprehensive solutions across multiple systems and buildings as well as customers interested in more limited approaches targeting individual measures

- Trade allies and contractors that install equipment directly in customer facilities and programs that encourage customers to work with these local trade allies for installations
- Programs that provide, in addition to financial incentives, education, energy assessments, design assistance, project management assistance, trade ally network development, quality assurance, certification and other features to overcome efficiency market barriers

The energy efficiency programs altogether reflect a natural customer experience from the initial engagement to specific offering delivered. Many of the offerings within each program are coordinated with other investor owned utilities (“IOUs”). Further, energySMART will also coordinate where possible with other statewide and national branding agencies such as Illinois Home Performance, ENERGY STAR, Illinois Municipal Electric Authority, Municipal Electric Authority, and the Salvation Army. The programs are further defined below.

### 1.2.1 Residential Programs

The residential programs are designed to align with the overall marketing and outreach strategy of the energySMART portfolio. The programs essentially follow a typical Nicor Gas customer’s energy efficiency journey from initial education, outreach and engagement to investing in household energy efficiency projects. The offerings are designed to meet a wide cross section of customer income levels, housing types, and other customer needs ranging from free behavior altering offerings to investments in high performance equipment and installations. The five residential programs are designated as:

Energy Education and Outreach (“Outreach”)

Home Energy Efficiency Rebates (“HEER”)

Home Energy Savings (“HES”)

Multi-family Program (“MF”)

Residential New Construction (“RNC”)

### 1.2.2 Income Qualified Program

The energySMART Income Qualified program is a result of FEJA passed by the Illinois General Assembly and signed by the Governor in December 2016 requiring Illinois IOU’s to offer energy efficiency programs to Income Qualified customers defined as a customer whose incomes fall at or below 80 percent of the area median income (“80% AMI”) starting with the program cycle in 2018. These programs were delivered by the Department at the inception of the energy efficiency statute in 2008.

The energySMART Income Qualified program is designed to exclusively provide energy efficiency opportunities to the most vulnerable customers in the Nicor Gas service territory

utilizing a targeted and tailored approach. The Income Qualified program will be offered jointly with other Illinois IOUs and the Illinois Housing Weatherization Assistance Program (IHWAP), while leveraging dollars associated with the Department of Energy (DOE) and Health and Human Services (HHS).

The energySMART proposed program includes follow offerings for Income Qualified customers.

- Single family weatherization and retrofits
- Multi-family weatherization and retrofits
- Public Housing Authority and multi-family energy efficiency
- Affordable New Construction

### 1.2.3 Business Programs

The business programs are designed to align with the overall marketing and outreach strategy of the energySMART portfolio. The offerings are designed to meet a wide cross section of customer needs, including those for large and small customers, commercial and industrial customers, building owners and tenants, simple and more comprehensive projects, new and existing buildings, and capital and operating solutions. The programs in this Sector include:

Strategic Energy Management Program (“SEM”)

Small Business Program (“SB”)

Business Energy Efficiency Rebates (“BEER”)

Business Custom Rebates (“Custom”)

Business New Construction (“BNC”)

### 1.2.4 Portfolio Functions

The successful implementation of the energySMART portfolio depends on the following essential support functions to provide strategic oversight, portfolio and trade ally management, analytical and quantitative support, business intelligence and data management services, marketing and customer engagement strategies, evaluation and measurement, research and development, and performance reporting.

#### Portfolio Management

The portfolio management function includes the internal staffing and other expenses necessary to successfully administer the portfolio, including staff responsible for overall portfolio management, planning and measurement, market research, accounting, regulatory and legal support, reporting, data analytics and IT energyENGINE systems, trade ally management and quality assurance. Further, this function also manages the Nicor Gas engagement in the Illinois

Technical Reference Manual (“TRM”) and Illinois SAG processes including new efforts around Income Qualified customers in economically disadvantaged communities.

### Portfolio Marketing

The portfolio marketing function includes the internal staffing and other expenses necessary to successfully deliver the portfolio’s marketing strategies. The internal team is responsible for the development, execution and management and delivery of marketing and communication strategies, plans and materials for customer engagement, and education. This function coordinates marketing, outreach and communications among implementation contractors, and develops all trade ally communications and materials. Further, the function develops and maintains websites, customer communications, and all creative development (graphic design, content writing, etc.), and also coordinates all outreach, events, and initiatives with community partners.

### Evaluation, Measurement and Verification (“EMV”)

Consistent with the provisions of Section 8-104, Nicor Gas invests three percent of the energySMART budget on impact and process evaluations, research and benchmarking studies of energySMART offerings by an independent evaluator.

### Emerging Technology and Market Transformation

Consistent with the provisions of Section 8-104, Nicor Gas devotes three percent of its portfolio budget to emerging technologies (“ET”) and, as discussed in Section 8-104(e-5), energySMART allocates 5% of the entire portfolio budget towards market transformation (“MT”) initiatives. The ET and MT programs will play a pivotal role in energySMART innovation and overall energy efficiency market development in Illinois.

## 1.2.5 Portfolio Spending, Savings and Cost Effectiveness Targets

Table 3 outlines the spending, savings, and cost-effectiveness associated with the Residential, Business, and Income Qualified programs and associated support functions. Appendix A provides additional results for each measure included in the portfolio.

**Table 3 2018-2021 Spending and Savings Targets**

Program (Thousands)	Spending	Gross Annual Therm Savings	Net Annual Therm Savings	Net Lifecycle Therm Savings	TRC
<b>Residential Program</b>					
Outreach	\$9,040	6,420	6,277	24,304	3.87
HEER	\$24,643	17,600	14,825	219,569	2.53
HES	\$12,318	2,048	2,151	32,978	1.47
MF	\$5,712	2,437	2,294	25,409	2.98
RNC	\$3,311	999	649	19,481	2.98
<b>Business Program</b>					
SEM	\$4,492	3,863	3,863	11,590	1.77
SBEEP	\$7,330	2,379	1,947	19,632	1.83
BEER	\$11,101	16,819	11,437	113,256	5.54
Custom Incentive	\$17,185	16,505	14,072	228,532	3.54
BNC	\$3,105	1,633	1,257	31,427	4.15
<b>Income Qualified Program</b>					
IQ Program	\$32,300	7,266	7,266	126,159	1.82
<b>Portfolio</b>					
Portfolio Management	\$8,212				
Portfolio Marketing	\$4,144				
EM&V	\$4,817				
Emerging Technology	\$4,817				
Market Transformation	\$8,028				
<b>Totals</b>					
Residential Programs	\$55,025	29,503	26,196	321,741	2.48
Business Programs	\$43,213	41,200	32,576	404,437	3.69
Income Qualified Program	\$32,300	7,266	7,266	126,159	1.82
Portfolio	\$30,018				
<b>Totals</b>	<b>\$160,555</b>	<b>77,969</b>	<b>66,039</b>	<b>852,336</b>	<b>2.46</b>

### 1.3 Building from Past Efforts

The plan builds on the firm foundation and strategy that energySMART has developed over the past six years. In May 2010, Nicor Gas launched its initial energy efficiency pilot portfolio funded by customer rates through the Company's Rider 29. The Rider 29 portfolio included six programs: residential prescriptive rebates, home weatherization, multifamily buildings, elementary education, business prescriptive rebates, and large business custom. This initial portfolio helped energySMART start building relationships with customers and trade allies. The Rider 29 efforts also helped the EEP build infrastructure in areas such as rebate processing, trade ally management, outreach, customer engagement, procurement, information systems, and evaluation primarily through contracting with various implementation contractors.

The first EEP authorized by Section 8-104 launched in June 2011 and expanded on the Rider 29 portfolio by adding seven new programs. New offerings included residential and business new construction programs, a behavior change offering, and a small business program. During the development of this portfolio, Nicor Gas established a long term strategic direction and

planned evolution of the EEP over time. It was clear that energy efficiency was here to stay in Illinois, and Nicor Gas evaluated the various options to manage the EEP going forward. These options included extremes such as a complete outsourced portfolio with a handful of internal staff, to a fully integrated department with full delivery capabilities for offerings to customers. Nicor Gas determined that a hybrid approach that builds over time core competencies in house but not quite delivering all offerings was the strategic direction to pursue.

Key elements and competencies deemed critical to insource included expertise that allow Nicor Gas to control and fully manage interactions with our customers and control data and process flows to our implementation contractors and evaluators. Marketing, IT systems, Program Management, Trade Ally Management, Planning, Measurement and Design, Customer Engagement, all are core functions that initially required third party contractors to perform. Over time, Nicor Gas has and continued to onboard these skills, which provide efficiencies, long-term consistency, and the ability to control messages and communications to customers. Furthermore, retaining these core proficiencies in-house makes the program nimbler and better able to adjust to meet customer needs. It allows the ability to change out implementation contractors as business needs or program changes require, without significant interruption or impacts to customers. energySMART becomes the hub of all data and expertise, where contractors can then be added or removed to best serve customers.

This strategy has generated efficiencies that lower costs and improve service to customers. As the EEP expertise has migrated to Nicor Gas, energySMART has consolidated implementation contractors, combined six different call centers into one, and can now provide concierge services to customers to troubleshoot issues, cross-promote offerings, and engage with customers at public events. Nicor Gas has also developed a single data platform (energyENGINE) to consolidate data for all program activities, customer demographics, customer contacts, outreach details, and market intelligence that allows for faster and more dynamic portfolio design, adjustment and response to customer needs. This platform helps the portfolio capitalize on “big data” with approaches for real time EM&V, data mining, market research, market potential studies, and other activities that otherwise would require costs in the hundreds of thousands of dollars annually performed by third parties.

As a result of these strategies, Nicor Gas has expanded its staffing capability during the past two portfolio cycles. Nicor Gas hired internal staff to manage key functions, including accounting, customer engagement, marketing, emerging technology, evaluation, portfolio technology, planning, program management, regulatory and quality control.

Consistent with the Act, Nicor Gas also devoted 3 percent of its budget in the first plan to develop an emerging technologies program that fosters promising new energy efficiency opportunities. The program has successfully spurred innovation by local and national manufacturers and has been featured at conferences run by the American Council for an Energy Efficient Economy, the Emerging Technologies Coordinating Council, and E-Source. This successful offering can be combined with other utility emerging technology spending, as has already been the case with Peoples Gas/North Shore, and ComEd. Partnerships by other

organizations inside and outside of Illinois can further leverage the Nicor Gas infrastructure and processes already developed and proven successful over the past years.

The energySMART EEP has also developed extensive networks of local businesses delivering energy efficiency products and services to Nicor Gas customers. These businesses provide equipment for space heating, water heating, and cooking equipment; products such as showerheads and thermostats; engineering and architectural services; and specialty analyses such as home energy rating, new construction and retro-commissioning. In addition, the networks reach out to key market enablers such as realtors, real estate developers, local municipalities, and environmental organizations. In all, Nicor Gas' EEP's trade ally network includes over 9,000 organizations located throughout Northern Illinois.

As discussed previously in Section 1.2, the evolution of the portfolio has resulted in simplifying the offerings into a natural customer journey both within the Residential Programs, Business Programs, and now with this portfolio the Income Qualified and Public Sector programs. All sectors feature several customer participation offerings that are aligned with a customer-centric delivery approach. Essentially, the programs have been streamlined to match the marketing and outreach strategy that more naturally resonates with our target audiences. This change was conceived and executed by energySMART staff through a process called Customer Journey Mapping, a step-by-step process to walk through the customers experience as the customer engages in energySMART. This award winning effort is an example of building core competencies in-house that benefits the customers who participate in the offerings. On December 7, 2016, new opportunities were presented for energySMART to completely manage all gas-related EE activities for Nicor Gas customers. The newly enacted legislation FEJA mandated Nicor Gas to include in this portfolio, for the first time, an integrated EE portfolio that includes public sector and Income Qualified customers, and market transformation initiatives. With this integration, energySMART investments in core EE infrastructure have allowed many of the offerings to be integrated and leveraged by the existing structures, and open the opportunity to build new core competencies in these areas that will serve our customers for years to come.

#### **1.4 Awards and Recognitions**

Since its inception, energySMART has received 12 national and regional awards for its innovative approaches and successful execution. The Midwest Energy Efficiency Alliance awarded Nicor Gas with Inspiring Efficiency through Marketing Award in January 2017 for its multicultural marketing campaign in efforts to achieve deeper reach to engage new customers in our energy efficiency program. In 2015, Midwest Energy Efficiency Alliance awarded Nicor Gas with Inspiring Efficiency awards in both the Marketing and Education categories, recognizing energySMART for its "customer stories" marketing strategy and campaign, and its "What's in the Box" furnace education campaign. Also in 2015, ENERGY STAR recognized energySMART with a Market Leader award for contributing 603 energy-efficient new construction homes in the year. In 2014, energySMART received its second Stevie Award for its "customer stories" marketing campaign, and received the Association for Energy Services Professional's Energy Award for its steam trap business marketing campaign. In addition, the Midwest Energy Efficiency Alliance awarded Nicor Gas with the Inspiring Efficiency award in the Impact category

for providing technical assistance to more than 200 business new construction and renovation projects. The Nicor Gas energy efficiency team has and will continue to share learnings gained from our local experience; will continue to present and speak at numerous peer conferences and gatherings; and will continue to engage with national and international organizations to help lead our industry, benchmark our activity and advance the overall goals of energy efficiency.

### 1.5 Economic Impacts

Significant economic activity in Northern Illinois is taking place as a direct result of the Nicor Gas energySMART portfolio. Since its inception, Nicor Gas has invested approximately \$200 million in the Northern Illinois economy through program spending and customer financial incentives, and helped customers save over 100 million therms and 1 billion gallons of water. This investment and resulting energy savings spurs economic activity and supports jobs and wages. An economic impacts study commissioned by Nicor Gas determined that PY3 energy efficiency investments by Nicor Gas and its customers supported almost 5,000 jobs paying \$311 million in wages, and spurred \$800 million in local economic activity.

The current plan, serving 2018-2021, is also expected to yield significant local economic impacts, although, with lower annual budgets, impacts will be smaller than those found in PY3. As shown in Figure 1, the proposed energySMART plan is expected to support over 1,300 jobs paying over \$50 million in wages and spurring over \$139 million in economic activity in the Northern Illinois. Figure 2 shows the HEER program, Outreach program and Custom incentive program providing the largest impacts. This is mainly due to the relatively large energy savings and out of pocket investments made by customers in these programs.

**Figure 1 Expected Economic Impacts of 2018- 2021 energySMART program**

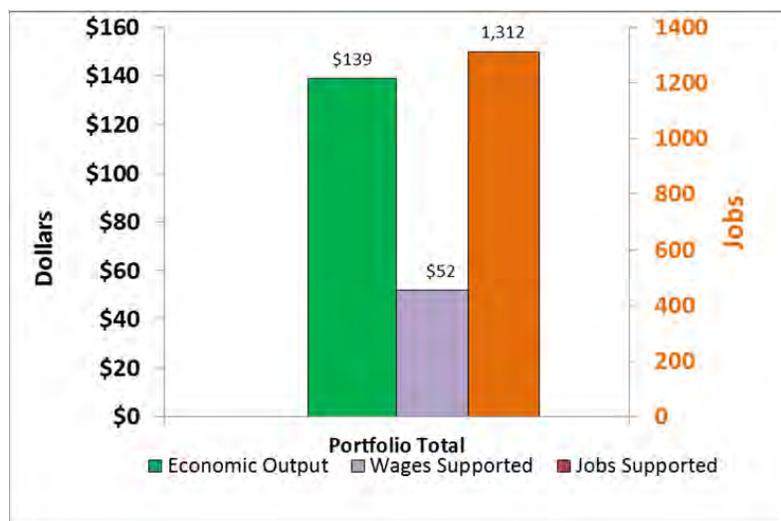
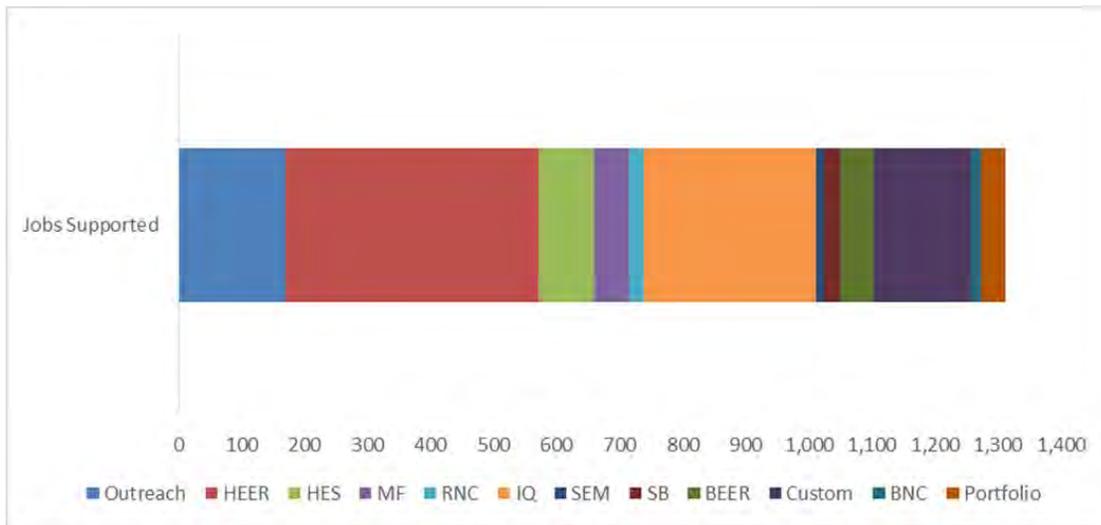


Figure 2 Jobs Supported by Program



## 1.6 Supplier 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 will have a positive and lasting impact 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.

The energy efficiency team, in partnership with our supplier diversity and supply chain teams, have worked diligently to foster awareness, enhance collaboration and provide support to increase the diversity of our supply chain. Since 2015, spending to diverse suppliers has increased to over \$2 million, more than doubling the spending from 2015 to 2016.

As the portfolio continues to mature, energySMART 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 noted in the Stipulation with stakeholders, Nicor Gas has committed to investigate ways to integrate workforce development initiatives, in coordination with ComEd and other workforce development entities, including, if practicable, the IHWAP, within its Market Transformation program as described in the plan.

Nicor Gas has also committed to engage in discussions within the low-income energy efficiency advisory committee convened pursuant to Section 8-103B(c) of the Act (“Income Qualified

Advisory Group”) aimed at increasing 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. As part of that commitment, Nicor Gas will (1) give preference to use of Illinois-based vendors whenever possible without sacrificing program effectiveness and/or efficiency; (2) maintain a diversity initiative as described in this plan; and collaborate with stakeholders to develop reporting metrics on diverse vendor activity as part of its quarterly reporting requirements.

We believe that an intentional approach to inclusion builds a sense of community among both our employees and suppliers, who naturally differ on a number of levels – personality, approach to work, thinking styles, educational background, work experiences, life situations, personal circumstances, expertise, cultural upbringing, family status, etc. Valuing and leveraging those differences as assets to the business creates a unique connection to the Company that supports our organizational goals related to retention and workforce development.

Our results reflect our intentional efforts to advocate, develop and create opportunities for diverse businesses. We understand that this level of commitment has a reach far beyond the diverse vendors we have a direct contractual relationship with. We impact the communities that these diverse businesses operate within as well the communities’ individuals employed by diverse businesses elect to reside within. Since 2015, the Nicor Gas energy efficiency team has increased supplier diversity efforts such as including diversity in all sourcing decisions, and collaborating closely with our implementation contractors to expand and identify opportunities for additional diverse spending opportunities. This has resulted in additional opportunities to provide mentoring, consultation, business education and training to help diverse businesses expand their service offerings and broaden their presence into our business.

Examples where the Nicor Gas energy efficiency team has succeeded in these efforts include launching a new moderate income home weatherization offering in 2016 utilizing diverse minority vendors. One vendor had experience participating in energySMART as a trade ally providing insulation and air sealing services to customers. The opportunity to partner with this vendor helped the team launch the offering quickly, while expanding opportunities for a diverse business partner.

Another example includes our work with a large implementation contractor to source all water saving direct install measures through a diverse vendor. Not only was the implementation contractor able to create nearly \$250,000 in diverse spending annually, they also leveraged this objective by hiring the vendor nation-wide for all the other programs, thus expanding this success well beyond Illinois.

A final example includes an initiative to source energy savings kits through a diverse company who is not currently in the energy efficiency marketplace. This Illinois Company produces kits for a variety of large businesses worldwide. The energySMART team walked the company through the business requirements, and selected them to perform this work, introducing them to an entirely new market – energy efficiency. As they develop and hone their delivery systems,

through mentorship from energySMART, they will be introduced to other energy efficiency market players nation-wide.

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 can thrive and feel valued and respected. Not only is the Nicor Gas energy efficiency team diverse demographically and in experience, but our team significantly participates in company Employee Resource Groups (“ERGs”), which help celebrate organizational diversity and provide opportunities for internal personal and professional development. Our team is also very much involved in state-wide efforts such as the Illinois Utilities Business Diversity Council (“IUBDC”).

### **1.7 Spending and Savings Targets**

Section 8-104 of the Act defines spending limits and savings goals for natural gas utility energy efficiency plans, and proceedings to date before the Commission have also clarified these requirements.

Section 8-104(d) requires utilities to limit their spending on energy efficiency to ensure that the estimated annual average increase in amounts paid by retail customers in connection with natural gas service is no more than 2 percent of annual revenue. Section 8-104(e-5) allocates spending by the utility, assigning 10 percent of total spending to the public sector which is defined as “local government, municipal corporations, school districts, and community college districts.” Section 8-104(e-5) also allows the utility to spend up to five percent of the entire portfolio of cost-effective energy efficiency measures for market transformation initiatives. Furthermore Section 8-104(e-5) requires the utility to present a portfolio of energy efficiency measures proportionate to the share of total annual revenues in Illinois from households at or below 150% of the poverty level. The aforementioned programs are required to be targeted at households with incomes at or below 80% of the area median income. Finally, Section 8-104(f) allows up to 3% of spending for independent evaluations and Section 8-104(g) allows up to 3% of spending for emerging technology activities.

In its order in Docket No. 10-0562 approving the first Nicor Gas plan, the Commission clarified that revenues used to calculate the 2 percent spending limit include revenues from whole requirements customers and transportation customers as well as implied gas cost revenue for residential and small commercial customers that purchase natural gas from third parties. The spending limit calculation does exclude spending by other large transportation customers on alternative gas suppliers, as well as revenue from customers choosing to “self-direct” their energy efficiency activities or are exempt as specified in Section 8-104(m). Effective January 1, 2020, as required in Section 8-104(n), all of the customers who meet the definition for self-direct eligibility will become completely exempt from the law, and will no longer contribute to or participate in the energySMART portfolio. During the four years covered by this EEP (2018-2021), those customers who have chosen to remain active in the energySMART portfolio and have chosen to not self-direct, are included the 2 percent revenue limit until 2020, but excluded for the remainder of 2020 and beyond.

The Act also requires natural gas utilities to achieve annual therm savings that are calculated as a percentage of calendar year 2009 sales and that increase with each successive year. For the fourth approved plan, the Act defines combined savings targets—including Department savings—reaching 1.4 percent in the year commencing January 1, 2018, 1.5 percent in the year commencing January 1, 2019, and an additional 1.5 percent in each year thereafter. FEJA now assigns 100 percent of the savings target to Nicor Gas.

Although the Act defines increasing savings targets, the Commission has established—in its order in Docket No. 13-0549 approving the second Nicor Gas Energy Efficiency Plan—that savings targets must be modified if they cannot be achieved within spending limits defined in Section 8-104(d). In that docket, the Commission established modified savings goals for Nicor Gas that were lower than those defined in the Act.

Finally, the Act provides natural gas utilities with the flexibility to manage spending and savings across the four years of plan operation. 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 the last Ameren Illinois Company d/b/a Ameren Illinois (“Ameren”) energy efficiency plan filing docket (Docket No. 13-0498), the Commission determined that cumulative savings targets should be calculated as the sum of annual savings targets verified by the independent evaluator, and in Docket No. 15-0297, Nicor Gas and Commission Staff have both agreed with this approach.

### **1.8 Statutory Spending and Savings for Fourth Approved Plan**

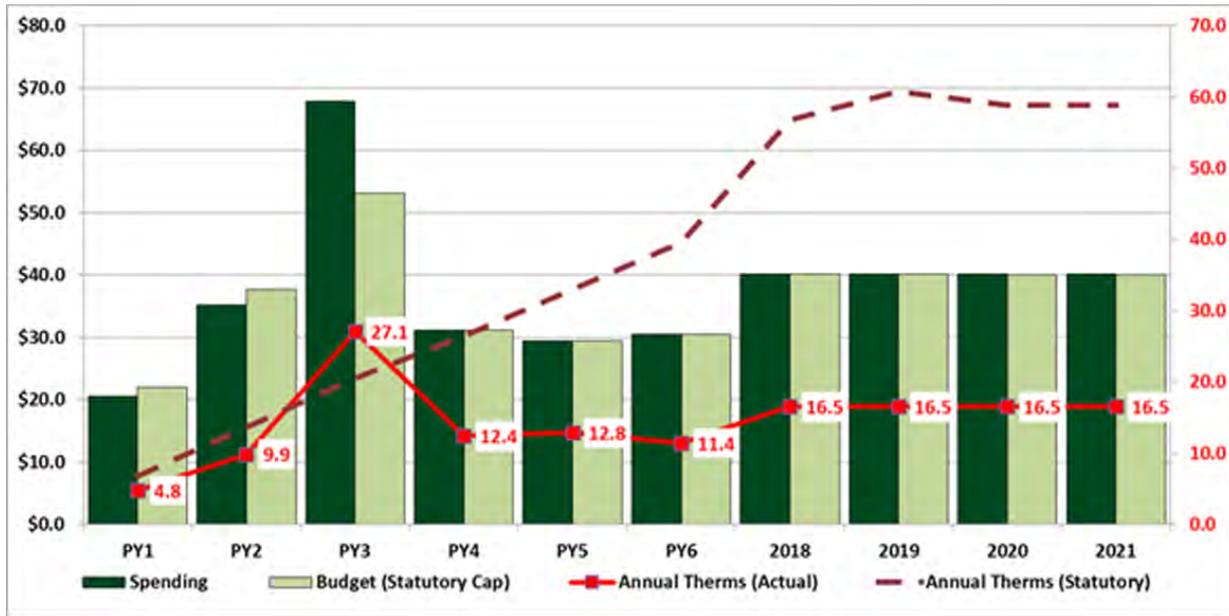
Table 4 calculates the Section 8-104 spending and savings requirements for the third Nicor Gas plan. Spending available during the fourth plan is below levels for 2018-2021 due to lower natural gas commodity costs, as well as increased numbers of self-direct customers. On average, the spending for the fourth plan declines 3 percent from the previous three-year period.

**Table 4 Statutory Spending and Savings Targets for 2018-2021 (In thousands)**

Thousands	2018	2019	2020	2021	Total
<b>Spending Limit</b>					
Revenue Basis for Section 8-104	\$2,010,964	\$2,010,964	\$2,003,071	\$2,003,071	\$8,028,069
Percentage Spending Limits	2%	2%	2%	2%	2%
Spending Limit	\$40,219	\$40,219	\$40,061	\$40,061	\$160,561
<b>Savings Target (Therms)</b>					
2009 Sales	4,696,987	4,696,987	4,696,987	4,696,987	18,787,948
Less Self Directed Customers	643,678	643,678	774,502	774,502	2,836,360
Sales Basis for Section 8-104	4,053,310	4,053,310	3,922,485	3,922,485	15,951,589
Percentage Savings Limits	1.40%	1.50%	1.50%	1.50%	NA
Annual Savings Target (Therms)	56,746	60,800	58,837	58,837	235,221

Due to the 2 percent spending limit as set forth in Section 8-104(d), Nicor Gas will not be able to meet the statutory savings targets of 56 to 58 million therms, as shown in Figure 3. In the history of the energy efficiency program, Nicor Gas created the highest savings in the plan year running from June 1, 2013 to May 31, 2014, at 33.1 million gross therms; however, the spending in that same period was much greater than that available for any single year in EEP 2018-2021. The statutory targets are not achievable given the limited spending allowed by the Act for 2018-2021.

Figure 3 Nicor Gas Spending and Net Savings Performance (Actual and Planned)



Instead, Nicor Gas has developed a portfolio that provides substantial savings, but that also meets a number of additional objectives outlined in Section 8-104 and important for long term portfolio success. In finalizing the portfolio, Nicor Gas allocated available budgets by applying the following objectives, which are also outlined in Table 5.

Budget:

The 4-year portfolio budget must remain within the Section 8-104(d) limits of \$161 MM, although individual years can deviate from the annual 2 percent cap.

Cost Effectiveness:

The Act requires that the overall energySMART portfolio 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. Nicor Gas used this information to adjust the portfolio, eliminating investment in some cost-ineffective measures and adjusting delivery approaches to improve program cost effectiveness.

However, Nicor Gas did not use the TRC test as a strict screening criterion at the program or measure level. Nicor Gas may include some measures with TRC ratios below 1.0 if they provide substantial sources of therm savings and they increase opportunities for customers to participate. In addition, it is important to maintain stability for these program implementation contractors and trade allies, since the programs may prove cost effective in the future if new

delivery approaches can lower program costs and if volatile natural gas markets result in higher avoided costs.

Several measures with TRC benefit-cost ratios below 1.0 were also maintained in the plan if they contributed to overall program success. 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 enhance participation in more cost-effective or more measures and savings. Additionally, low-income offerings need not be cost-effective nor need to be assessed when calculating the total portfolio's cost-effectiveness.

**Table 5 Nicor Gas Energy Efficiency Portfolio Objectives**

<b>Planning Objective</b>	<b>Consideration</b>
<b>Budget</b>	Remain within the 2% statutory budget and size the tracks/offers according to rate class contribution.
<b>Cost Effectiveness</b>	Demonstrate that overall portfolio is cost effective using TRC test.
<b>Savings</b>	Increase annual therms and Increase lifecycle therms.
<b>Fairness</b>	Provide diverse cross section of opportunities for customers of all rate classes as well as the Income Qualified population.
<b>Diversity</b>	Explore and increase opportunities for direct and indirect spending with minority, women, and veteran owned businesses.
<b>Market</b>	Maintain stability for Trade Alley partners.
<b>Economic Development</b>	Increase economic activity within Illinois.

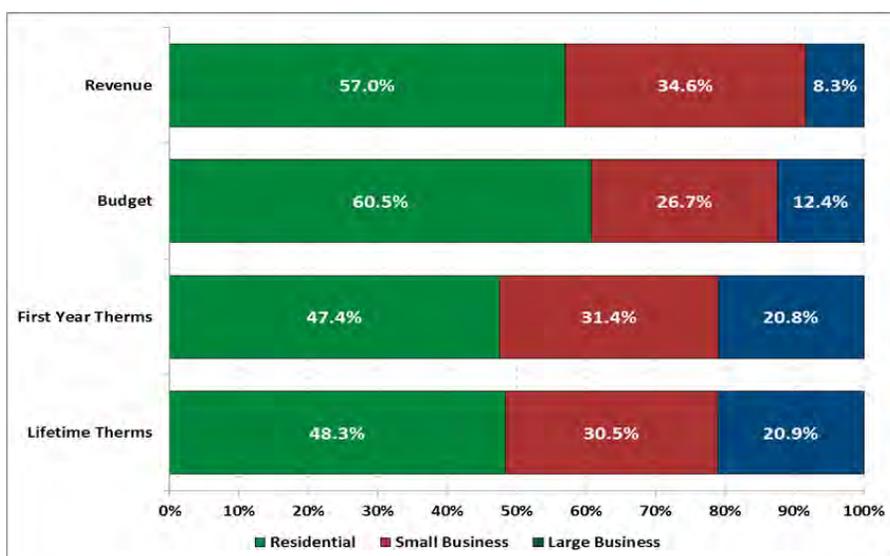
#### Therm Savings:

Section 8-104(c) establishes savings goals that are measured in "first year" or "annual" 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., behavior change measures last only a few years) while others last much longer lifetimes (e.g., attic insulation has a useful life of 20 years), the first-year savings metric does not capture the full benefits associated with plan investments. Several stakeholders in the SAG expressed interest in also understanding the lifecycle savings associated with each program. Nicor Gas considers both lifecycle savings and annual savings in setting program budgets, generally favoring programs with low cost per lifecycle therm saved, but also including some programs with low costs per annual therm saved that could also help support other plan goals.

Fairness:

Section 8-104(f) requires Nicor Gas to provide a diverse cross section of opportunities for customers of all rate classes and income levels 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, customers in new construction and existing buildings, customers in the market to purchase new equipment and customers interested in improving the efficiency of existing equipment, as well as a wide range of additional market segments. To ensure fairness of opportunity to participate, Nicor Gas has allocated portfolio budgets to customer classes in general proportion to class contribution to revenue. (See Figure 4.)

**Figure 4 Budget and Savings by Nicor Gas Rate Classes**



Market Based Programs:

In setting program budgets, Nicor Gas allocated relatively higher funding to programs driven by market forces, as opposed to programs that Nicor Gas controls—to some extent—through promotion and pricing policies. These market driven programs include rebates and the new construction programs, which have volumes tied primarily to market forces around equipment failures and building construction. Because the energySMART program relies on trade allies to engage directly with the majority of customers in these market-driven programs, additional efforts to educate, communicate and coordinate with these programs is necessary. Furthermore, should the market “heat-up”- such as when very cold winters trigger higher furnace replacements, or when customer demand increases for exciting new technologies (e.g., advanced thermostats) - funding needs to be enough to support these short-term market events. For other programs, energySMART can more directly regulate market activity. For

example, customer demand for energy savings kits can be lowered by reducing outreach and website exposure for a period of time. However, for those market-based offerings where consistent market participation from our trade allies and customers serves as one of the most influential drivers of results within energySMART, consistent and sufficient funding levels must be maintained.

#### Economic Development and Business Diversity:

In addition to achieving energy savings, Nicor Gas is committed to utilizing energy efficiency as a tool to support economic growth and help build wealth and employment within our communities. When developing an energy efficiency portfolio, Nicor Gas remains cognizant of how energySMART can improve the economic competitiveness for businesses and individuals. Nicor Gas recognizes that investments in energy efficiency not only lower costs for businesses and families, but also create numerous opportunities for the local job force, diverse business owners, and economically distressed communities. There are over two million customers that Nicor Gas serves, which embodies a wide diversity of people. By working with a diverse set of implementation contractors and suppliers, energySMART benefits from that diverse perspective to help assure that everything that is executed has that broader and more diverse perspective, from design, communication to ultimate delivery of services.

### **1.9 Additional Plan Requirements**

Section 8-104 establishes two additional program-specific requirements for natural gas efficiency plans in addition to requirements for savings, spending, cost effectiveness, and participation opportunity. These include:

#### Standards

Section 8-104(f) (2) requires utilities to provide specific proposals for implementing building and appliance standards that have been put into effect. The code support components of the two new construction programs meet this requirement.

In addition, programs in energySMART establish applicable building and appliance standards as minimum eligibility requirements for program enrollment, and, in many cases, require customers to significantly exceed minimum standards in order to earn incentives. The programs also educate customers and trade allies about building and appliance standards as part of ongoing outreach and communication efforts.

#### Income Qualified Customers

The Act requires utilities to present a portfolio of energy efficiency measures proportionate to the share of total annual revenues in Illinois from households at or below 150% of the poverty level. The aforementioned programs are required to be targeted at households with incomes at or below 80% of the area median income Nicor Gas will also coordinate several offerings with ComEd to further meet the needs of this market. The Residential Program also provides

services to a number of Income Qualified residents. Many of the residential offerings are free of charge and require no customer investment, including weatherization of single family and multi-family residences, free energy assessments, free measures directly installed during energy assessments, and free energy savings kits. The Residential Education and Outreach track also serves schools in Income Qualified neighborhoods. Nicor Gas plans to make a concerted effort to reach Income Qualified customers even beyond their organic participation within energySMART.

### 1.10 Program Budgets and Goals

Using the portfolio objectives outlined in Table 5, Nicor Gas developed budgets and savings goals for each program, as well as the spending required for portfolio support functions. These are shown in Table 4 above. Table 6 below summarizes energySMART budget and goals.

**Table 6 energySMART 2018-2021 Budget and Goal Summary**

Thousands	2018	2019	2020	2021	Total
Budget (\$)	\$40,138,862	\$40,138,862	\$40,138,862	\$40,138,862	\$160,555,447
Annual Savings Goal (Therms)	16,509,650	16,509,650	16,509,650	16,509,650	66,038,601
Life Cycle Savings Goal (Therms)	213,084,028	213,084,028	213,084,028	213,084,028	852,336,113
Annual Savings Dollar /Therm	2.43	2.43	2.43	2.43	2.43
Life Cycle Savings Dollar /Therm	0.19	0.19	0.19	0.19	0.19

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

The energySMART program meets all applicable requirements of Section 8-104<sup>3</sup> of the Act. Please see Table 7 below.

<sup>3</sup> <http://www.ilga.gov/legislation/ilcs/fulltext.asp?DocName=022000050K8-104>

Table 7 Requirements of Section 8-104

Sub Section	Plan Cross Reference
8-104(e-5)	<p>(e-5): Nicor Gas' plan allocates spending among the utility programs, 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 1.7.</p> <p>(e-5): Nicor Gas' plan includes programs designed for low income customers that are at or below 80% of their area median income as described in Section 1.7.</p>
8-104(f)	<p>The current plan document will be filed with the Commission on or before June 30, 2017.</p> <p>(f) (1): Appendix A shows the list of measures Nicor Gas will be offering to meet proposed modified goals in Section 1.2.5.</p> <p>(f) (2): The energySMART plan addresses new buildings and appliance standards in Chapters 2, 3, 4, and 6.</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 tracks, 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, and meets the requirements of Section 8-104(f)(7). 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.</p> <p>(f) (8): Table 3 in Section 1.2.5 lists proposed EM&amp;V costs that are 3% of the proposed budget. Section 5.4 discusses EM&amp;V in detail. Section 6.1 discusses emerging technology in detail.</p>

## 1.12 Organization of this Report

The following chapters outline the key features and planning assumptions for each program. Chapter 2 contains the residential programs' outlines, Chapter 3 contains the Income Qualified programs' outlines, and Chapter 4 provides the business programs' outlines. Chapter 5 summarizes the portfolio support functions necessary to successfully deliver the portfolio programs. Chapter 6 provides an in-depth information on energy efficiency innovation through emerging technologies and market transformation programs. 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 provides adjustable goals template. The adjustable goals template will be used in future to calculate goal adjustments as a result of annual TRM updates.

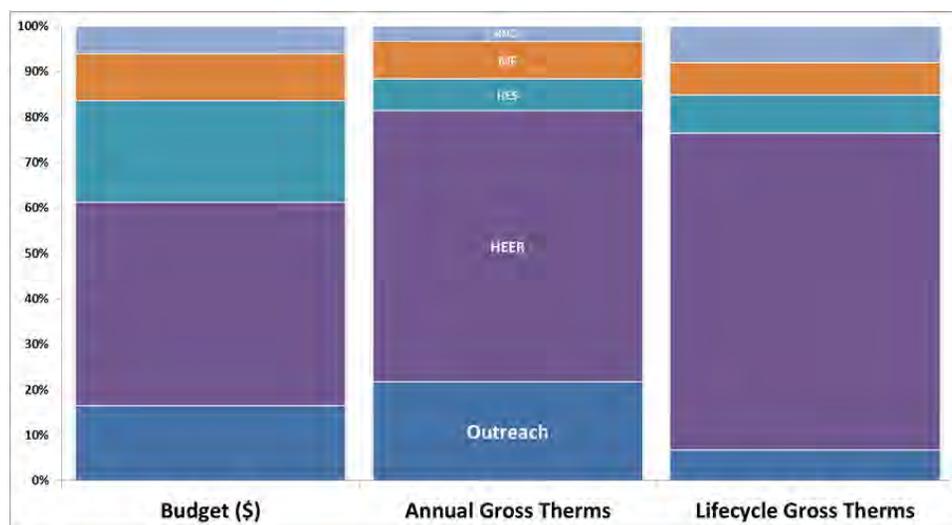
## 2 Residential Programs

The chapter describes energySMART's proposed portfolio of residential energy-efficiency programs. The residential energy efficiency portfolio includes five programs discussed in Section 1.2.1 above. The residential portfolio provides incentives for upgrades to high efficiency equipment, weatherization, energy efficiency education and outreach, energy assessments, and new construction. The portfolio targets all residential customers living in both single family and multifamily homes.

The residential portfolio is designed using a holistic approach encouraging Nicor Gas' residential customers to make their entire living environments more energy efficient, rather than replace equipment measure by measure. Additionally, during these four years, our team will focus on offering service oriented energy-saving solutions, such as our whole home assessment approach, instead of individual self-service measures such as rebates. This will be done with the use of marketing, program team members and trade ally partners. The majority of 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 groups. Where appropriate, Nicor Gas also partners with Ameren, Peoples Gas, and North Shore Gas to deliver some programs. Nicor Gas believes that these collaborations will result in increased savings and convenience for its customers, by capturing both electric and natural gas measures within the same project, as well as cost savings for each program and energySMART customers.

Figure 5 provides budget, annual net therm and lifecycle net therm as percent of total residential program targets. Each residential program has several measures and offerings discussed in detail below.

**Figure 5 Residential Programs Spending and Saving Targets as percentage of total residential program**



Program Name	Energy Education and Outreach Program
Objective	The energy education and outreach program aims to enhance residential customer's understanding of energy usage in their homes and educate these customers on available energy efficiency opportunities through energySMART.
Target Market	All residential customers served by Nicor Gas living in single family and multi-family living spaces. Most offerings are coordinated with other program administrators, but stand-alone offerings are also provided to customers not served by IOUs.
Description	<p>The energy education and outreach program is the first step in a typical household's energy efficiency journey. This program builds awareness of how customers use energy, the different ways available to save energy, and, finally, how they can partner with Nicor Gas to take action. The offerings in the program include:</p> <ul style="list-style-type: none"> <li>- Customer requested Energy Saving Kits.</li> <li>- Energy education targeted at elementary school students.</li> <li>- Behavior modification techniques that foster energy efficiency as part of everyday living.</li> </ul> <p>The offerings are further explained below.</p> <p><u>Energy Saving Kits ("ESKs")</u></p> <p>Nicor Gas plans to continue distributing ESKs during 2018-2021. The kits are free and include low-flow showerheads (1 or 2 per kit), kitchen aerators, shower timers and bathroom aerators (1 or 2 per kit). These low-flow devices conserve hot water, and therefore save the natural gas needed to heat the water. New to the ESK offering, beginning in 2018, is a shower timer that will further contribute to therm savings.</p> <p><u>Energy Education Kits ("EEKs")</u></p> <p>The offering is designed to educate elementary (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 curricular materials employ the universal design approach; they are</p>

	<p>flexible and easy to use by students of varying abilities. 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, energySMART plans on targeting some kits towards Income Qualified customers. Nicor Gas can choose schools to participate that are located in areas where a significant portion of Income Qualified households exist based on census data.</p> <p><u>Behavior Energy Savings (“Behavior”)</u></p> <p>The intention of the behavior offering is to generate energy savings through residential customer engagement and behavioral change strategies by providing select cohort groups with analytics comparing usage to similar customers, as well as customized energy savings tips and tactics. This offering will utilize one or more vendors to provide individualized energy use information through Home Energy Reports (HERs) tailored to customer usage and habits and drive changes in energy usage behavior. HERs may use utility 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.</p> <p>This combination of multi-channel communications targeted messaging, energy usage analytics and behavioral science has been shown to result in positive behavior changes related to energy usage and an increase in participation in other energySMART offerings.</p>
<p>Collaboration</p>	<p>The program will include measures that will be delivered both jointly with other program administrators (such as EEKs) and Nicor Gas – only (such as ESKs and Behavior Energy Savings).</p>
<p>Delivery Strategy</p>	<p>The program is delivered through the three offerings described above, with each representing a vital step of education and awareness of energySMART’s overall customer engagement strategy. The offerings are often times the first step customers take on their journey to a more energy-efficient home. These teach and create awareness about energy efficiency opportunities available to them through energySMART and encourage continued energy-saving actions at home. The delivery strategy of each of the offerings is explained below.</p>

	<p><u>ESKs</u></p> <p>The ESKs are free to all Nicor Gas residential customers who choose to request a kit. Further, the offering will target customers through direct email, outreach events, targeted emails, energySMART website promotions, and through financial heating assistance intake centers.</p> <p><u>EEKs</u></p> <p>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, energySMART plans on targeting some kits towards Income Qualified customers. Nicor Gas can choose schools to participate that are located in areas where a significant portion of low and moderate income homes exist based on census data.</p> <p>Two different EEKs are delivered depending upon whether the area served is in a joint ComEd/Nicor Gas, or Nicor Gas only area. Kits in the joint areas include both electric and gas measures while the Nicor Gas only areas include gas only measures.</p> <p><u>Behavior Energy Savings (“Behavior”)</u></p> <p>This offering will utilize one or more vendors to provide individualized energy use information through Home Energy Reports (HERs) and similar ancillary approaches tailored to customer usage and habits and drive changes in energy usage behavior. HERs may use utility 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.</p>
<p>Marketing Strategy</p>	<p>Energy efficiency can be perceived as an abstract concept to numerous customers and these offerings provide the energySMART representatives an opportunity to interact with customers and teach them about the importance of energy efficiency and 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.</p> <p>energySMART will utilize a concierge-like service through the Marketing and Outreach Center to proactively engage customers through event interactions and will utilize some mass media tactics (such as print ads)</p>

	<p>and customer communications (such as targeted emails and bill inserts). Additionally, offerings such as the energy savings kits and the energy educations 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 2018-2021.</p> <p>Marketing tactics by channel</p> <p><u>Energy-saving kits</u></p> <p>The main marketing distribution channel to market the ESKs are outreach events, targeted emails and targeted social media posts. These tactics have been the most effective way to penetrate different customer segments, such as multicultural markets and low-moderate income populations. Additionally, through the energy-saving kits, marketing is able to gather additional customer information in order to promote other offerings in the portfolio.</p> <p><u>Elementary education kits</u></p> <p>Although most of the marketing and communications EEKs are primarily conducted by the IC (which, include school recruitment, online information and collateral development); the energySMART marketing team plays a significant role in the design of the materials, and assists in the sending of email blasts and press releases pre and post kit distribution. If a PR event was deemed appropriate, it would be coordinated between the IC, Nicor Gas and ComEd.</p> <p><u>Behavior offering</u></p> <p>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 and participating in other energySMART offerings</p>
<p>Eligible Measures</p>	<p>A comprehensive list of available measures are listed in Appendix A. The key measures in the Residential Program include:</p> <ul style="list-style-type: none"> <li>• Energy Savings Kits</li> <li>• Elementary Education Kits</li> <li>• Home Energy Reports</li> </ul> <p>Please see the measure summary report for more details.</p>

Program Targets

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

**Table 8 Education and Outreach Targets**

<b>THERMS</b>	
Gross Therms	6,420
Net Therms	6,277
Lifecycle Gross Therms	25,461
Lifecycle Net Therms	24,304
<b>BUDGET</b>	
Implementation Cost	4,237
Incentive Cost	4,804
Total	\$9,040
<b>\$ / Therm</b>	
\$ / Gross Therm	\$1.41
\$ / Net Therm	\$1.44
\$ / Lifecycle Gross Therm	\$0.36
\$ / Lifecycle Net Therm	\$0.37
<b>COST EFFECTIVENESS</b>	
TRC	3.87
PAC	3.88

Program Name	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, installation and maintenance of high efficient natural gas space- and water-heating equipment as well as other targeted measures in residential applications.
Target Market	Single family and multi-family residential property owners and tenants who are installing or replacing natural gas heating and water heating equipment or who are installing appliances that result in the more efficient use of natural gas.
Description	This program provides incentives for the purchase and installation of high efficiency natural-gas furnaces and boilers, smart thermostats, proper installation and maintenance of HVAC equipment and other high efficiency natural gas residential end use equipment. Customers are encouraged to install the most efficient gas heating equipment and appliances available when replacing older, less efficient equipment. This is accomplished by influencing the purchase and installation of high-efficiency space heating and water-heating technologies through a combination of market push and pull strategies as well as education by Trade Allies. These efforts stimulate demand while simultaneously increasing market provider investment in stocking and promoting high-efficiency products. As part of our Trade Ally outreach efforts, we work closely with stocking distributors and they can become a Contractor Circle supplying member (CCsm) for energySMART. The program participants also may be eligible for on-bill financing for their purchases, which reduces the upfront expense to the customer for the energy efficiency purchase.
Collaboration	The natural gas space and water heating measures are generally delivered exclusively by the energySMART program. Whereas, smart thermostats, and complete system replacement measures will be jointly delivered with other program administrators.
Delivery Strategy	In an effort to move to a more catered and tailored whole home solution for customers, the way customers receive their rebates will be changing. During the last six years, customers found a trade ally, submitted a

	<p>rebate application, and received their check through the mail weeks after the work was done (for the most part). During these next four years, the participation structure will change such that customers work with one of our contractor circle members to obtain the desired equipment, and instead of waiting for the rebate check, the customer will receive an instant rebate at the time of installation. This new model will allow an increase in customer education, as the contractor circle member will educate the customer on how to best utilize the equipment and maintain it in order to maximize efficiency. Additionally, this offering approach may be paired with other offerings such as HVAC Save, to make sure that the equipment has been installed properly and is maximizing energy efficiency in the home.</p> <p><b><u>Mid-Stream and Up-Stream Delivery Approaches</u></b></p> <p>The program will evaluate midstream and upstream delivery channels for natural gas usage equipment in coordination with other regional stakeholders and utilities.</p>
<p>Marketing Strategy</p>	<p>The driving force behind the equipment incentives is a combination of direct marketing to customers, effective outreach to market actors (e.g., trade allies) and to communities to support and increase their constituents' engagement in the program. Mass marketing (TV, radio, billboards, print, online) are the main contributors to promoting this offering to our energySMART customers. Additional marketing and mass communication tactics, such as bill inserts, email blasts and outreach events, serve as compliments to the mass marketing strategy. Community partnerships and event outreach also play a large role in educating customers about these offerings and in establishing trust between energySMART and the customer.</p> <p>Trade ally participation and assistance in the promotion of this program has also been key in meeting program goals. Therefore, energySMART has devoted substantial marketing and outreach efforts in order to educate trade allies about the program, create needed education and sales tools for the trade allies to be able to talk to customers about the energySMART offerings, and organize round tables and research to understand how to continue improving partnerships with the trade allies.</p>
<p>Eligible Measures</p>	<p>The available measures are listed in measure summary report in Appendix A. The key measures in the HEER program include:</p> <ul style="list-style-type: none"> <li>- High efficiency residential furnaces</li> </ul>

	<ul style="list-style-type: none"> <li>- High efficiency residential boilers</li> <li>- Smart Thermostats</li> <li>- Quality install and maintenance of HVAC equipment</li> </ul> <p>Please see the measure summary report for more details.</p>																																		
Program Targets	<p>The program budget and savings targets are provided in Table 9 below. Please note the figures are rounded to thousands.</p> <p style="text-align: center;"><b>Table 9 HEER Program Targets</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr style="background-color: #0056b3; color: white;"> <th colspan="2">THERMS</th> </tr> </thead> <tbody> <tr> <td>Gross Therms</td> <td style="text-align: right;">17,600</td> </tr> <tr> <td>Net Therms</td> <td style="text-align: right;">14,825</td> </tr> <tr> <td>Lifecycle Gross Therms</td> <td style="text-align: right;">261,494</td> </tr> <tr> <td>Lifecycle Net Therms</td> <td style="text-align: right;">219,569</td> </tr> <tr style="background-color: #0056b3; color: white;"> <th colspan="2">BUDGET</th> </tr> <tr> <td>Implementation Cost</td> <td style="text-align: right;">11,697</td> </tr> <tr> <td>Incentive Cost</td> <td style="text-align: right;">12,946</td> </tr> <tr> <td>Total</td> <td style="text-align: right;">\$24,643</td> </tr> <tr style="background-color: #0056b3; color: white;"> <th colspan="2">\$ / Therm</th> </tr> <tr> <td>\$ / Gross Therm</td> <td style="text-align: right;">\$1.40</td> </tr> <tr> <td>\$ / Net Therm</td> <td style="text-align: right;">\$1.66</td> </tr> <tr> <td>\$ / Lifecycle Gross Therm</td> <td style="text-align: right;">\$0.09</td> </tr> <tr> <td>\$ / Lifecycle Net Therm</td> <td style="text-align: right;">\$0.11</td> </tr> <tr style="background-color: #0056b3; color: white;"> <th colspan="2">COST EFFECTIVENESS</th> </tr> <tr> <td>TRC</td> <td style="text-align: right;">2.53</td> </tr> <tr> <td>PAC</td> <td style="text-align: right;">7.89</td> </tr> </tbody> </table>	THERMS		Gross Therms	17,600	Net Therms	14,825	Lifecycle Gross Therms	261,494	Lifecycle Net Therms	219,569	BUDGET		Implementation Cost	11,697	Incentive Cost	12,946	Total	\$24,643	\$ / Therm		\$ / Gross Therm	\$1.40	\$ / Net Therm	\$1.66	\$ / Lifecycle Gross Therm	\$0.09	\$ / Lifecycle Net Therm	\$0.11	COST EFFECTIVENESS		TRC	2.53	PAC	7.89
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Program Name	Home Energy Savings Program
Objective	The Home Energy Savings (“HES”) program is a whole house single family weatherization program with the objective to obtain natural gas and electricity savings in existing single family buildings by overcoming market barriers to the installation of energy efficiency measures. The program promotes the installation of shell and envelop improvements.
Target Market	The joint program 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 4 units. The Gas Only component targets select municipalities serviced by municipal electric providers.
Description	<p>The HES program provides weatherization and shell improvement opportunities using standard, prescriptive and whole-house approaches.</p> <p><u>Standard offering</u></p> <p>The standard offering provides home energy assessments to customers and achieves energy savings through the direct installation of energy saving products including LED’s (offered jointly with ComEd), pipe insulation, shower heads and aerators, and programmable thermostat reset, etc. at the time of assessment. If the participant chooses to implement the recommended weatherization work, financial incentives are offered. This program targets single family homes or multi-family buildings with up to 4 units.</p> <p>Although HES is a joint program with ComEd, this offering is also provided as a gas-only program in communities served by a municipal electricity utility or a coop. The only difference between the joint and gas only assessment is that no electric measures are installed during the assessment in a non-electric IOU territory. Nicor Gas may encourage participation among gas only customers, through bill inserts in Nicor Gas only customers’ bills, targeted emails, or other micro-targeted approaches.</p> <p><u>Prescriptive offering</u></p> <p>The Prescriptive offering includes attic air sealing and insulation performed by a program approved Building Performance Institute (BPI) certified participating contractor (they must meet several program</p>

	<p>requirements in order to qualify and participate). After a customer has expressed interest in the program, a participating contractor schedules a site visit to the home. No assessment is required and the participating contractor will complete the air sealing and insulation weatherization work. The customer receives an “instant discount” on the completed work.</p> <p><u>Whole house offering</u></p> <p>The whole house approach aims to generate deep savings in a customized approach. The deep savings are achieved through a comprehensive whole house model approach to energy efficiency by treating a single family or multi-family (1-4 units) dwelling as a system of interconnected mechanical systems. The offering includes assessment of dwelling envelop, mechanical systems, air distribution system, appliances and lighting. Customers will be provided with a customized energy report with energy efficiency improvement recommendation. The customer will also be provided bonus incentive to undertake multiple recommendations.</p>
<p>Collaboration</p>	<p>It is the intent of Nicor Gas to offer this program jointly or in collaboration with other regional electric and municipal utilities where applicable.</p>
<p>Delivery Strategy</p>	<p>energySMART will identify, train, and employ a network of regionally-based BPI certified energy advisors to perform home energy assessments, provide customer-specific energy efficiency recommendations and install instant retrofits at the time of assessment. The Air Sealing and Insulation retrofit work will be performed by program approved trade allies that were pre-vetted to ensure they meet all the program requirements, one of which is BPI certification. All installation work will meet rigid performance standards established by energySMART, the partner electric and municipal utility, and the program vendor. A systematic approach to home improvement that addresses all aspects of building systems will be employed.</p> <p>Eligible customers who complete qualifying building envelope improvement projects can receive a rebate through the air sealing and insulation offering of the HES program. Customers who take advantage of the air sealing and insulation offering do not have to participate in the home assessment offering. However, only program-approved trade allies are able to complete the work. Nicor Gas, ComEd and the program vendor work together to train these trade allies on program requirements.</p>

Marketing Strategy	<p>This program requires the use of targeted emails in order to produce customer participation. The emails have been extremely effective as we are able to target customers based on the age of their home and energy usage. The marketing team will compliment these efforts with community outreach, including events and community partnerships given that these have been a great tactic used to educate customers about this offering.</p>
Eligible Measures	<p>The available measures are listed in measure summary report in Appendix A. The key measures in the HES program include:</p> <ul style="list-style-type: none"> <li>- Air Sealing, duct sealing, and attic insulation</li> <li>- Basement sidewall and Wall insulation</li> <li>- Direct Install of low flow devices including showerheads, bath and kitchen aerators</li> <li>- Direct Install of Smart thermostats</li> <li>- Programmable thermostat reprogramming and education.</li> <li>- Weather stripping</li> </ul> <p>Please see the measure summary report for more details.</p>
Program Targets	<p>The program budget and savings targets are provided in Table 10 below. Please note the figures are rounded to thousands.</p>

Table 10 HES Program Targets

<b>THERMS</b>	
Gross Therms	2,048
Net Therms	2,151
Lifecycle Gross Therms	31,407
Lifecycle Net Therms	32,978
<b>BUDGET</b>	
Implementation Cost	7,273
<u>Incentive Cost</u>	<u>5,045</u>
Total	\$12,318
<b>\$ / Therm</b>	
\$ / Gross Therm	\$6.01
\$ / Net Therm	\$5.73
\$ / Lifecycle Gross Therm	\$0.39
\$ / Lifecycle Net Therm	\$0.37
<b>COST EFFECTIVENESS</b>	
TRC	1.47
PAC	2.60

Program Name	Multi-Family Program
Objective	<p>The Multi-Family Comprehensive Energy Efficiency Program (“MF”) will address residential (living units) and commercial (common areas, central plants) energy efficiency opportunities available in multi-family buildings. Further, the program will aim to overcome market barriers to the installation of energy efficiency measures in multi-family buildings by offering comprehensive assessments, technical assistance and incentives.</p>
Target Market	<p>Property owners of residential gas heated multi-family buildings of five or more units including high-rise buildings, low-rise buildings, town homes, condominiums, assisted living, retirement communities, non- income qualified properties, public income qualified properties and public and private school dormitories.</p>
Description	<p>This program will continue from the program offered during PY4-6. The MF will offer property owners with turnkey services to reduce energy and water use in both residential living units, common areas building shell.</p> <p>Nicor Gas will require program specific training and schedule installation contractors to retrofit living units in targeted buildings. Contractors will install low-flow water-saving devices (the Water Savings package), including kitchen and bath aerators rated at 1.0 GPM, and showerheads rated at 1.5 GPM, as well as programmable thermostats. The contractors will install electric measures in each unit under a separate contract with partner electric utilities (or a municipality with the electric distribution authority and funding for electric measures). Educational information about the energy savings associated with these devices will be left in all units. The service is provided at no cost to property owners and occupants.</p> <p>Nicor Gas will also look for comprehensive opportunities to install energy saving measures in both residential living units and the common areas of multi-family buildings. Highly effective measures, such as boiler tune-ups, boiler controls, and steam traps, will be identified and the customer will be referred to the Find a Contractor tool to find an installing contractor who does this type of work. Common area measures and building shell measures will be installed in conformance with the MF prescriptive and custom portion of the program, and will earn the incentives and savings related to this program.</p>

<p>Collaboration</p>	<p>It is the intent of Nicor Gas to offer this program jointly or in collaboration with other regional electric and municipal utilities.</p>
<p>Delivery Strategy</p>	<p>The driving force behind the successful delivery is effective outreach to market actors such as trade allies, business trade associations, directly to Nicor Gas multifamily building owners, associations and to communities that support these programs. The multifamily program relies heavily on one-on-one engagement with building owners and trade allies to promote the program and provide technical assistance. Traditional marketing strategies are less effective reaching the appropriate contact within a multifamily organization. Program education and participation is best achieved through direct outreach and after several touch points have been made. Enhancements to the strategy are made as needed depending upon the responses received.</p> <p>MF is designed so that customers can participate through two types of offerings. One offering consists of a free energy assessment and free installation of energy saving products. This portion of the program is offered jointly with ComEd. The direct install portion of the program offers free installation of low-flow showerheads, faucet aerators, domestic hot water pipe wrap, programmable thermostats and thermostat education, and lighting and adjustment of the temperature setting of hot water heaters to reduce the consumption of natural gas and electricity.</p> <p>Customers are also eligible for rebates and incentives through the purchase and installation of qualifying energy efficient products. Typical projects consist of boiler tune-ups, boiler controls, steam trap repairs/replacement, space and water heating equipment upgrades And building shell insulation These type of upgrades are performed by installing trade allies.</p>
<p>Marketing Strategy</p>	<p>A highly-targeted marketing and outreach strategy will be employed for the MF program. Recruitment efforts will first target property management companies in an effort to secure agreements to treat multiple properties through a single point of contact before targeting owners and managers of individual properties. General outreach will occur through advertisements in apartment association publications and industry events. This will provide awareness of the program and credibility to the implementation contractors. The implementation contractor will use direct mail solicitation, as well as presentations at local property owners' associations, to recruit participants.</p>

Eligible Measures	<p>The available measures are listed in the measure summary report in Appendix A. The key measures in the MF program include:</p> <ul style="list-style-type: none"> <li>- Direct Install of low-flow devices including showerheads, bath and kitchen aerators and programmable thermostats</li> <li>- Commercial boiler retrofit and tune ups and hot water circulation</li> <li>- Custom projects specific to energy saving opportunity available</li> </ul> <p>Please see the measure summary report for more details.</p>																																		
Program Targets	<p>The program budget and savings targets are provided in Table 11 below. Please note the figures are rounded to thousands.</p> <p style="text-align: center;"><b>Table 11 MF Program Targets</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2" style="background-color: #0056b3; color: white;">THERMS</th> </tr> </thead> <tbody> <tr> <td>Gross Therms</td> <td style="text-align: right;">2,437</td> </tr> <tr> <td>Net Therms</td> <td style="text-align: right;">2,294</td> </tr> <tr> <td>Lifecycle Gross Therms</td> <td style="text-align: right;">26,989</td> </tr> <tr> <td>Lifecycle Net Therms</td> <td style="text-align: right;">25,409</td> </tr> <tr> <th colspan="2" style="background-color: #0056b3; color: white;">BUDGET</th> </tr> <tr> <td>Implementation Cost</td> <td style="text-align: right;">3,433</td> </tr> <tr> <td>Incentive Cost</td> <td style="text-align: right;">2,279</td> </tr> <tr> <td>Total</td> <td style="text-align: right;">\$5,712</td> </tr> <tr> <th colspan="2" style="background-color: #0056b3; color: white;">\$ / Therm</th> </tr> <tr> <td>\$ / Gross Therm</td> <td style="text-align: right;">\$2.34</td> </tr> <tr> <td>\$ / Net Therm</td> <td style="text-align: right;">\$2.49</td> </tr> <tr> <td>\$ / Lifecycle Gross Therm</td> <td style="text-align: right;">\$0.21</td> </tr> <tr> <td>\$ / Lifecycle Net Therm</td> <td style="text-align: right;">\$0.22</td> </tr> <tr> <th colspan="2" style="background-color: #0056b3; color: white;">COST EFFECTIVENESS</th> </tr> <tr> <td>TRC</td> <td style="text-align: right;">2.98</td> </tr> <tr> <td>PAC</td> <td style="text-align: right;">4.44</td> </tr> </tbody> </table>	THERMS		Gross Therms	2,437	Net Therms	2,294	Lifecycle Gross Therms	26,989	Lifecycle Net Therms	25,409	BUDGET		Implementation Cost	3,433	Incentive Cost	2,279	Total	\$5,712	\$ / Therm		\$ / Gross Therm	\$2.34	\$ / Net Therm	\$2.49	\$ / Lifecycle Gross Therm	\$0.21	\$ / Lifecycle Net Therm	\$0.22	COST EFFECTIVENESS		TRC	2.98	PAC	4.44
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Program Name	Residential New Construction Program
Objective	The objective of the Residential New Construction Program (RNC) is to obtain energy savings by increasing the energy efficiency in the new construction of single-family homes and duplexes beyond existing building codes.
Target Market	The target market for the program includes homebuilders and qualified home energy raters that work together to build homes in Illinois that are safer, more comfortable, durable and energy efficient than homes built to the current state energy code.
Description	<p>The residential new construction program works with homebuilders and qualified Building Performance Consultants (RESNET-accredited HERS Raters) to build homes in the Nicor Gas service territory that are safer, more comfortable, more durable and more energy efficient (exceeding code requirements by at least 20 percent) than homes built to the current state energy code.</p> <p>The program provides monetary incentives for Builders and Building Performance Consultants as a means to not only promote energy-efficient new construction, but also accelerate the adoption of new technologies and drive market transformation.</p>
Collaboration	The Residential New Construction program is offered jointly by Nicor Gas and ComEd.
Delivery Strategy	<p>The key elements of the delivery strategy include:</p> <ul style="list-style-type: none"> <li>• <b>Rater &amp; Builder Recruitment:</b> The primary recruitment effort will target HERS rating companies and homebuilders in the Nicor Gas service territory, with recruitment occurring through individual contact, group outreach events and involvement in local industry organizations, local and national builder associations, publications, and training events. Raters and builders participating in the program will receive regular communications about program activities to ensure that they are informed and engaged participants.</li> </ul>

	<ul style="list-style-type: none"> <li>• <b>Technical Assistance:</b> The implementation contractor will provide training and guidance regarding program offerings and participation processes to raters and builders as needed to minimize confusion and barriers to participation.</li> <li>• <b>Project Verification:</b> Program verification will occur through the independent local HERS rating companies that participate in the program as they conduct multiple site inspections and report on the efficiency level of each home enrolled in the program when construction is complete. Separate QA/QC requirements performed by the implementation contractor are also required.</li> <li>• <b>Education and Training:</b> The implementation contractor is responsible for educating and training the primary trade allies (i.e., homebuilders and home raters). The implementation contractor will conduct periodic training sessions detailing the requirements and administrative functions for participating in the program. The implementation contractor may also plan sessions that focus on the basic fundamentals of building science and “selling energy efficiency” for this same audience.</li> </ul>
<p>Marketing Strategy</p>	<p>The marketing strategy will focus on raising awareness and creating action among both HERS rating companies and homebuilders that are directly involved in the process of constructing new single family homes and duplexes. Messaging will emphasize that there are distinct advantages to using energy-efficient building practices and installing energy-efficient components throughout the construction process.</p> <p>The program will be promoted to HERS rating companies and homebuilders using various targeted marketing tactics, including direct outreach and involvement in local industry organizations, publications, and training events. The implementation contractor will provide all recruitment and training services for the program. The participating HERS rating 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 and to teach and motivate homebuilders to differentiate themselves in the marketplace by building homes that exceed the current energy code by at least 20 percent. The implementation contractor is also responsible for leading the creation and development of all marketing materials, including webpage content, homeowner fact sheet, builder and rater fact sheet, and a homeowner’s certificate and letter.</p>

	<p>The marketing effort must deliver both knowledge about the benefits of energy efficiency and the availability of this program's elements. The program will provide a tangible benefit/incentive to influence raters and the home builders to participate.</p>																																		
<p>Eligible Measures</p>	<p>The available measures are listed in the measure summary report in Appendix A. The key measures in the RNC include:</p> <ul style="list-style-type: none"> <li>- New, high-efficient homes at least 20% above code.</li> </ul> <p>Please see the measure summary report for more details.</p>																																		
<p>Program Targets</p>	<p>The program budget and savings targets are provided in Table 12 below. Please note the figures are rounded to thousands.</p> <p style="text-align: center;"><b>Table 12 RNC Program Targets</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2" style="background-color: #0056b3; color: white;">THERMS</th> </tr> </thead> <tbody> <tr> <td>Gross Therms</td> <td style="text-align: right;">999</td> </tr> <tr> <td>Net Therms</td> <td style="text-align: right;">649</td> </tr> <tr> <td>Lifecycle Gross Therms</td> <td style="text-align: right;">29,970</td> </tr> <tr> <td>Lifecycle Net Therms</td> <td style="text-align: right;">19,481</td> </tr> <tr> <th colspan="2" style="background-color: #0056b3; color: white;">BUDGET</th> </tr> <tr> <td>Implementation Cost</td> <td style="text-align: right;">1,775</td> </tr> <tr> <td><u>Incentive Cost</u></td> <td style="text-align: right;"><u>1,536</u></td> </tr> <tr> <td>Total</td> <td style="text-align: right;">\$3,311</td> </tr> <tr> <th colspan="2" style="background-color: #0056b3; color: white;">\$ / Therm</th> </tr> <tr> <td>\$ / Gross Therm</td> <td style="text-align: right;">\$3.31</td> </tr> <tr> <td>\$ / Net Therm</td> <td style="text-align: right;">\$5.10</td> </tr> <tr> <td>\$ / Lifecycle Gross Therm</td> <td style="text-align: right;">\$0.11</td> </tr> <tr> <td>\$ / Lifecycle Net Therm</td> <td style="text-align: right;">\$0.17</td> </tr> <tr> <th colspan="2" style="background-color: #0056b3; color: white;">COST EFFECTIVENESS</th> </tr> <tr> <td>TRC</td> <td style="text-align: right;">2.98</td> </tr> <tr> <td>PAC</td> <td style="text-align: right;">5.99</td> </tr> </tbody> </table>	THERMS		Gross Therms	999	Net Therms	649	Lifecycle Gross Therms	29,970	Lifecycle Net Therms	19,481	BUDGET		Implementation Cost	1,775	<u>Incentive Cost</u>	<u>1,536</u>	Total	\$3,311	\$ / Therm		\$ / Gross Therm	\$3.31	\$ / Net Therm	\$5.10	\$ / Lifecycle Gross Therm	\$0.11	\$ / Lifecycle Net Therm	\$0.17	COST EFFECTIVENESS		TRC	2.98	PAC	5.99
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### 3 Income Qualified Program

The chapter describes energySMART's proposed offerings for Income Qualified customers. Income Qualified ("IQ") customer means a residential Customer of a participating utility with a household income at or below 80% of area median income. The low income offerings provide energy efficiency opportunities to the most vulnerable customers in Nicor Gas service territory. The low income program will be offered jointly or in collaboration with other Illinois IOUs and state agencies such as health and human services and IHWAP.

The energySMART low income program is a result of FEJA passed by the Illinois General Assembly and signed by the Governor in December 2016 requiring Illinois IOU's to offer energy efficiency programs to the low income customer defined as the customer whose annual incomes fall at or below 80% of area median income starting in 2018. Traditionally, these programs were delivered by the Department of Commerce and Economic Opportunity (the "Department") since the inception of the gas energy efficiency statute, Section 8-104 of the Public Utilities Act, in 2008.

The energySMART proposed program includes the following offerings for Income Qualified customers:

- Single family weatherization and retrofits
- Income Qualified multi-family retrofits (meaning the building has a special designation or is in an area/census tract or has known residents that reside in the building that are income qualified)
- Public Housing Authority buildings
- Affordable Housing New Construction

The energySMART proposed program closely follows the legacy programs offered by the Department. The Department offering includes rebates for single family and multi-family home weatherization in collaboration with federal weatherization assistance program, rebates for common area and building mechanical systems in public housing authority and incentives for developers of affordable public housing units and buildings in Illinois. At least 30% of the Income Qualified housing units treated will be multi-family units, which are assumed to be a minimum of 5 units per building. Nicor Gas will serve all customers who qualify for IHWAP through the IHWAP program delivery infrastructure. Nicor Gas will supplement IHWAP's capabilities in order to expand eligibility for the single family offering within the dedicated Income Qualified programs beyond IHWAP's eligibility limit (customers with household incomes up to 200% of the federal poverty level) to ensure that the program serves customers with household incomes up to 80% of area median income. While the energySMART program will incorporate all these offerings, an additional aspect of the program is providing direct install energy efficiency opportunities for residents of living units similar to energySMART's core program.

In delivering the single family offering (and multi-family as appropriate) within the dedicated Income Qualified program, Nicor Gas will partner with IHWAP, including through the following provisions as set forth in the Stipulation:

- i. Nicor Gas will ensure that its dedicated program takes advantage of state and federal funding available through IHWAP.
- ii. Nicor Gas shall engage in discussions with stakeholders in SAG regarding appropriate allocations of energy savings for offerings delivered through IHWAP and make prospective adjustments to plan goals (first year therms and portfolio measure life) as described in Sections II.B.1.b and II.B.1.e of this Stipulation on a going forward basis as necessary.
- iii. Nicor Gas will serve all customers who qualify for IHWAP through the IHWAP program delivery infrastructure.
- iv. Nicor Gas will supplement IHWAP's capabilities in order to expand eligibility for the single family offering within the dedicated Income Qualified Program beyond IHWAP's eligibility limit (customers with household incomes up to 200% of the federal poverty level) to ensure that the program serves customers with household incomes up to 80% of area median income.
- v. Nicor Gas will work with IHWAP to ensure that outreach, intake, quality control, training, and other program delivery functions are integrated across the different Nicor Gas weatherization offerings (*i.e.*, income qualified offerings for customers with household incomes up to 200% of federal poverty level; income qualified offerings for customers with household incomes up to 80% of area median income; and offerings for customers without income qualifications).
- vi. Nicor Gas may engage with additional organizations (*e.g.*, United Way, Rebuilding Together) to expand IHWAP capabilities and increase the program's ability to serve all customers with household incomes up to 80% of area median income.
- vii. Nicor Gas will strive to engage local diverse weatherization contractors to perform weatherization activities for income qualified offerings for customers with household incomes up to 200% of federal poverty level; income qualified offerings for customers with household incomes up to 80% of area median income; and offerings for customers without income qualifications.

The minimum program spending and savings targets are shown in Table 13 below. The minimum spending targets are determined according to the Section 8-104(e-5) guidelines by analyzing revenues from the residential customers that are at or below 150% of the federal poverty line and calculating the percentage of these revenues to the total revenue collected by Nicor Gas. This percentage at approximately 10% is used to allocate energySMART funding for the low income customers as minimum target. The minimum energy savings targets are determined based on the net energy savings goal filed by the Department and Nicor Gas in the plan at issue in Docket No. 16-0421.

**Table 13 Income Qualified Program Minimum Spending Requirement**

Revenue Determination from Customers at or below 150% of Poverty Line (Millions)	
% of Total Accounts	17%
% of Total Revenue	10.50%
EEP Budget (4 years)	\$160.56
< = 150% of Poverty Line Segment Share (4 years)	\$16.86
< = 150% of Poverty Line Segment Share (Annual)	\$4.22

As part of the Stipulation with stakeholders during the planning phase of this plan, Nicor Gas agreed to spend an average of \$8.075 million per year, excluding any allocated portfolio level costs, over the 2018-21 plan period on the dedicated low income sector targeted programs or initiatives, primarily through jointly delivered Nicor Gas and ComEd income qualified programs. This amount includes the spending for customers living in Public Housing Authority buildings in the Nicor Gas service territory.

### 3.1 Income Qualified Market

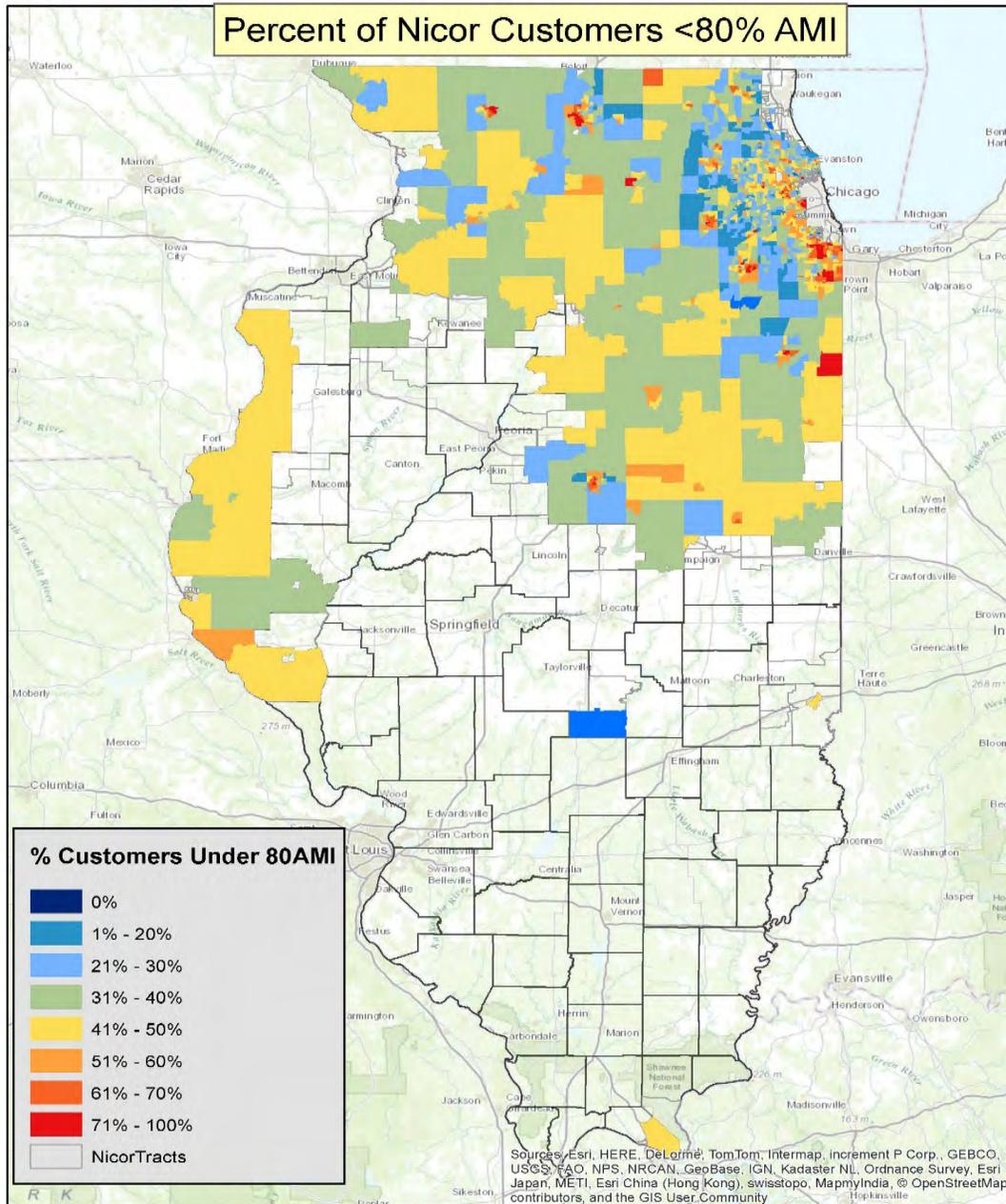
To better understand the Income Qualified market in Nicor Gas service territory, detailed data analysis were conducted utilizing various sources such as US census, customer demographics data in Nicor Gas systems, etc. The analysis (Table 14 below) show approximately three hundred and forty thousand customer at or below 150% of the federal poverty line. These customers represent approximately 17% of the Nicor Gas residential market. In addition, the data shows approximately eight hundred thousand of Nicor Gas residential customers at or below 80 percent of area median income (AMI). These customers represent approximately 37% of the Nicor Gas residential market.

**Table 14 Nicor Gas Residential Market**

<b>Nicor Gas Residential Market</b>	
Total Households/Accounts	2 million accounts
Income Qualified Accounts <= 150% of poverty	340 thousand accounts
% of Total Accounts	17%
Income Qualified Accounts <= 80 AMI of poverty	750 thousand accounts
% of Total Accounts	37%

Additionally, the customers are spread across the Nicor Gas service territory. Figure 6 represents the concentration levels of Nicor Gas customers that are at or below 80 AMI across the service territory. As the color in the figure turns from blue to red, the percent concentration of customers in the Nicor Gas territory that are less than 80% AMI is higher. For example, those areas in the figure that are dark red represent the highest concentrations of customers less than 80% AMI in the Nicor Gas territory. Those areas that are dark blue represent the lowest concentration of customers less than 80% AMI.

Figure 6 Nicor Gas Customers at or below 80% AMI



### 3.2 Income Qualified Advisory Group

Nicor Gas has committed to engage in good faith discussions within the Income Qualified Advisory Group, created through FEJA, with the aim of achieving consensus on ways to:

- Qualify eligible customers, including consideration of qualification via census data.
- Have more direct contractual relationships with diverse vendors, non-profits, and smaller vendors.
- Develop appropriate incentive levels for various sub-classes within the Income Qualified Group, including differences between single and multi-family and between subsidized and unsubsidized building owners.
- Leverage on-bill financing and other financing mechanisms for all Income Qualified customers as well as Multi-Family Program participants.
- Seek opportunities for hiring current Illinois-based not-for-profit implementers.
- Develop 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% of Area Median Income, for single-family and multi-family weatherization programs and measures.
- Offer comprehensive retrofits, including opportunities for customers to achieve comprehensive retrofits over multiple years.
- Ensure quality control through the cost-effective implementation of mechanisms such as Building Performance Institute certification, project management, building commissioning, operations and maintenance training, ongoing monitoring, and technical assistance.
- Development of evaluation metrics for Income Qualified programs.

Nicor Gas will work in concert with ComEd, as appropriate and in relation to jointly delivered programs, in achieving consensus within the Income Qualified Advisory Group.

### 3.3 Past energySMART Efforts

The energySMART core programs have been providing opportunities for the Income Qualified customers since its inception in 2011. An in depth analysis of past program participation trends and performance results indicate significant participation from the Income Qualified customers in energySMART programs. Nicor Gas terms this Income Qualified participation as Income Qualified organic participation and although not counted towards the statutory Income Qualified spending objective under Section 8-104(f) or the annual Income Qualified program spend negotiated with Stakeholders as set forth in the Stipulation, Nicor Gas does consider spending and savings occurring as a result of this organic participation towards energySMART's overall goal of serving Income Qualified customers beyond the statutory minimum. Table 15 below represents historic participation in energySMART programs from customer segment at or below 80% AMI or approximately at 300% of the federal poverty line (~80% AMI). As shown in the table below the past customer participation is between 39%-47% in programs offered from PY1 through PY4.

**Table 15 Customer at or below 80 AMI historic participation in energySMART programs**

Poverty Threshold <= 300 - % of Total Participation				
Programs	PY1	PY2	PY3	PY4
HEER Program	39%	40%	41%	41%
Behavior	N/A	29%	39%	N/A
Kits	N/A	N/A	46%	47%
HES	30%	33%	32%	40%
EEE	40%	40%	40%	43%

The Income Qualified program is further explained below.

Program Name	Income Qualified Energy Efficiency Program
Objective	The objective of the Income Qualified (“IQ”) energy efficiency program is to provide broad and deep energy efficiency opportunities to the IQ customers living in single family homes, multi-family buildings and also for the construction of new energy efficient affordable housing.
Target Market	The target market for the program is all Nicor Gas residential customers that are at or below 80 percent of area median income as determined by the federal HUD guidelines. Nicor Gas shall engage in good faith discussions within the Income Qualified Advisory Group – with the aim of achieving consensus – on ways to qualify eligible customers, including consideration of qualification via census data.
Description	The IQ program provides opportunities to address energy efficiency opportunities in a holistic manner in single family homes, multi-family living units and buildings, and new construction of affordable living spaces. The program includes a cross section of measures covering weatherization, mechanical systems, building systems, thermostats and HVAC systems. These offerings are explained further.

	<p><u>Single Family and Multi-family Weatherization and Retrofits</u></p> <p>The offering primarily targets weatherization opportunities including air sealing and insulation in single family and multi-family dwellings. Further, the program includes smart thermostats, faucet aerators, showerheads, and pipe insulation installation in a direct install fashion and rebates for installation of high efficiency furnaces and water heaters.</p> <p><u>PHA/Multi-family Buildings</u></p> <p>The offering primarily targets PHA buildings or other buildings that have a special designation, or are in a specific low income area/census tract, or a building that has a known population or number of low income living units within these buildings. The offerings provides incentives for upgrades of building systems such as boilers, central plants, hot water circulation controls and HVAC tune ups generally found in PHA buildings. Further, the offerings also provides incentives for customized projects on buildings that will result in overall reduction in natural gas consumption of the buildings. In addition to addressing building systems and envelope, the offerings will provide direct install opportunities for the residents of the living units in these buildings. These opportunities include installation of low flow devices such as showerheads and aerators, reprogramming or education of programmable thermostats, pipe insulation, and LED lighting (for joint gas and electric areas).</p> <p><u>Affordable Housing New Construction</u></p> <p>The offering provides incentives and technical assistance for the developers and builders of new affordable living spaces and major renovations that eventually will be occupied by low income customers. The offerings provides similar incentives as the Department’s Legacy Program.</p>
<p>Collaboration</p>	<p>The IQ program will be delivered jointly with other program administrators including ComEd, Ameren, Peoples Gas and North Shore Gas as well as state agencies such as IHWAP, health and human services and other relevant organizations (e.g., Community Action Partnership (“CAP”) agencies, Salvation Army, United Way, etc.).</p>
<p>Delivery Strategy</p>	<p>The overall delivery strategy of the IQ program is to replicate the Department strategy.</p> <p>The IQ Program will work with state agencies, local governments,</p>

	<p>community partners and other entities that administer low income home improvement programs. These agencies will range from the local CAP agency to the Department’s IHWAP office, private building owners or public housing agencies. The implementation contractor will identify, train, and employ a network of regionally-based network certified energy advisors to perform home energy assessments, multi-family energy assessments, provide customer/property-specific energy efficiency recommendations and install direct measures at the time of assessment. The Air Sealing and Insulation retrofit work will be performed by program approved trade allies that were pre-vetted to ensure they meet all the program requirements, one of which is a network contractor certification. All installation work will meet rigid performance standards established by energySMART, the partner electric and municipal utility, and the program vendor.</p> <p>The IQ program will also work with developers and builders of affordable housing. energySMART will work with the implementation contractor to provide incentives and technical assistance of rehabs and new construction buildings.</p>
<p>Marketing Strategy</p>	<p>Given the different delivery strategies, the marketing efforts will be carried out by the implementation contractors, partner low-income agencies, as well as the energySMART marketing team. The energySMART marketing team will promote this offering through targeted tactics, such as targeted emails, bill inserts, and targeted social media post. Community events will also play a large role in educating customers about this offering and driving participation. This offering will be included in any mass media efforts that promote the overall portfolio of offerings.</p>
<p>Eligible Measures</p>	<p>The available measures are listed in the measure summary report in Appendix A. The key measures in the IQ Program include:</p> <ul style="list-style-type: none"> <li>- Air and duct Sealing and attic insulation</li> <li>- Basement sidewall and Wall insulation</li> <li>- Direct Install of low flow devices including showerheads, bath and kitchen aerators</li> <li>- Direct Install of Smart thermostats</li> <li>- Programmable thermostat reprogramming and education</li> <li>- Weather stripping</li> <li>- High efficiency water heaters and furnaces -New construction above code</li> </ul>

	<p>- Customized projects Please see the measure summary report for more details.</p>																																						
<p>Program Targets</p>	<p>The program budget and savings targets are provided in Table 16 below. Please note the figures are rounded to thousands.</p> <p style="text-align: center;"><b>Table 16 IQ Program Targets</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2" style="background-color: #0056b3; color: white;">THERMS</th> </tr> </thead> <tbody> <tr> <td>Gross Therms</td> <td style="text-align: right;">7,266</td> </tr> <tr> <td>Net Therms</td> <td style="text-align: right;">7,266</td> </tr> <tr> <td>Lifecycle Gross Therms</td> <td style="text-align: right;">126,159</td> </tr> <tr> <td>Lifecycle Net Therms</td> <td style="text-align: right;">126,159</td> </tr> <tr> <th colspan="2" style="background-color: #0056b3; color: white;">BUDGET</th> </tr> <tr> <td>Implementation Cost</td> <td style="text-align: right;">4,457</td> </tr> <tr> <td>Incentive Cost</td> <td style="text-align: right;">27,844</td> </tr> <tr> <td>Total</td> <td style="text-align: right;">\$32,300</td> </tr> <tr> <th colspan="2" style="background-color: #0056b3; color: white;">\$ / Therm</th> </tr> <tr> <td>\$ / Gross Therm</td> <td style="text-align: right;">\$4.45</td> </tr> <tr> <td>\$ / Net Therm</td> <td style="text-align: right;">\$4.45</td> </tr> <tr> <td>\$ / Lifecycle Gross Therm</td> <td style="text-align: right;">\$0.26</td> </tr> <tr> <td>\$ / Lifecycle Net Therm</td> <td style="text-align: right;">\$0.26</td> </tr> <tr> <th colspan="2" style="background-color: #0056b3; color: white;">COST EFFECTIVENESS</th> </tr> <tr> <td>TRC</td> <td style="text-align: right;">1.82</td> </tr> <tr> <td>PAC</td> <td style="text-align: right;">3.28</td> </tr> </tbody> </table> <p style="text-align: center;"><b>Table 17 PHA Spending Component of IQ Program</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2" style="background-color: #0056b3; color: white;">Public Housing Authority</th> </tr> </thead> <tbody> <tr> <td>Total Spending</td> <td style="text-align: right;">\$4,764</td> </tr> </tbody> </table>	THERMS		Gross Therms	7,266	Net Therms	7,266	Lifecycle Gross Therms	126,159	Lifecycle Net Therms	126,159	BUDGET		Implementation Cost	4,457	Incentive Cost	27,844	Total	\$32,300	\$ / Therm		\$ / Gross Therm	\$4.45	\$ / Net Therm	\$4.45	\$ / Lifecycle Gross Therm	\$0.26	\$ / Lifecycle Net Therm	\$0.26	COST EFFECTIVENESS		TRC	1.82	PAC	3.28	Public Housing Authority		Total Spending	\$4,764
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## 4 Business Programs

The chapter describes energySMART's proposed portfolio of business energy-efficiency programs targeting commercial, public and industrial segments that pay into the energy efficiency program through Rider 30. The business energy efficiency portfolio includes five programs. The business portfolio provides incentives for upgrades to high efficiency equipment, process and operations optimization, customized solutions, and new construction.

A significant change to the proposed energySMART business programs compared to the ones offered in previous program years is the inclusion of public sector customers. The new FEJA passed by the Illinois legislature and signed by the governor requires Illinois IOU's to offer energy efficiency programs and offerings to the public sector entities starting in the 2018 program cycle. Traditionally, the public sector programs were delivered by the Department since inception of the energy efficiency statute in 2008.

The public sector customers however consume natural gas in similar ways as other comparable commercial customers. Therefore, the energySMART proposed business portfolio addresses public sector energy efficiency opportunities through existing programs, measures and services as offered to current commercial customers but with new strategies and approaches to target public sector customers.

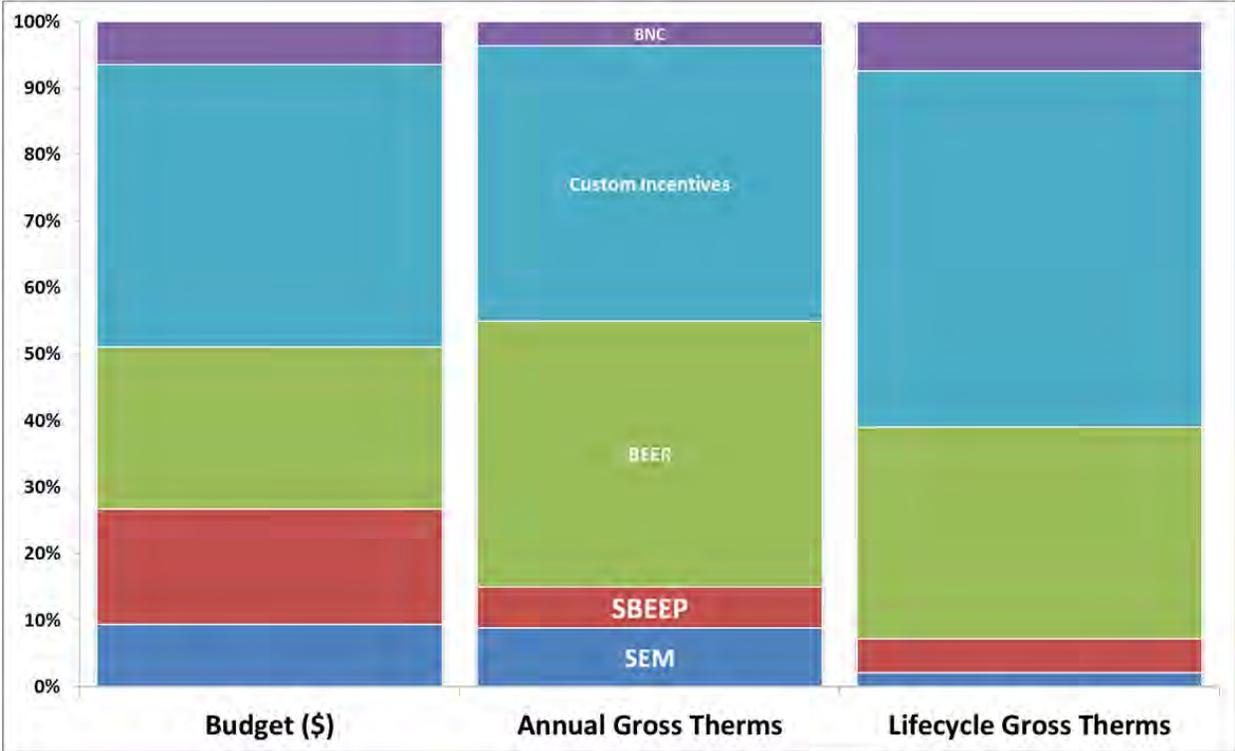
The minimum spending targets are determined according to Section 8-104 guidelines that provide for a minimum of 10% of the entire energySMART portfolio spending to be allocated to the public sector measures and offerings. The minimum public sector spending targets are shown in Table 18 below.

**Table 18 Minimum Public Sector Statutory Spending**

Thousands	2018	2019	2020	2021	Total*
<b>Public Sector Spending</b>					
Spending	\$4,014	\$4,014	\$4,014	\$4,014	\$16,056

Figure 7 provides budget, annual net therms and lifecycle net therms as percent of total business program targets. Each business program has several measures and offerings discussed in detail below.

**Figure 7 Business Programs Spending and Savings as Percent of Total**



Program Name	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 and industrial operations, processes and energy equipment.
Target Market	The target market is medium to large commercial, industrial and public sector customers that consume at least 500,000 therms or more of natural gas annually.
Description	The SEM program is a joint program with ComEd that is delivered in a cohort fashion. The offering requires formation of small cohorts (10-12) of customers of similar size who use a significant quantity of natural gas (excess of 500,000 therms) and electricity annually. The cohort works together with the program staff for one year and jointly determine operations, process and equipment efficiency opportunities in their respective facilities. Each cohort member nominates an internal energy champion who is responsible for driving operational and process efficiencies in his or her facilities by in taking the program training and coaching and further expanding these learnings in their respective organizations. Essentially, SEM aims at generating process and behavior savings at customer facilities by focusing on waste reduction, process improvement, and lean principle applications towards energy usage. The SEM services are provided at no cost to the participating customers and assists participating customers with integrating energy efficiency disciplines into their business, and understanding the cost of energy in their products and services as part of their business operations. The offering further increases customer participation in business prescriptive and custom programs.
Collaboration	It is the intent of Nicor Gas to offer this program jointly or in collaboration with other regional electric and municipal utilities.
Delivery Strategy	Nicor Gas and ComEd work with the Implementation Contractor (IC) to identify and recruit ten to twelve customers into a cohort. The IC, Nicor Gas and ComEd meet with the end user’s executive staff to present program benefits and expectations, and executives will have the opportunity to express what they see as advantages or challenges of participation. Addressing the cohort’s company executives’ comments and questions during this process is critical to the recruitment process.

Program materials are used to assist with the decision making process, including an Executive Sponsor Roadmap, which outlines specific activities and the time commitment over the SEM program. The value of SEM is conveyed beginning with the energy cost-reduction opportunity, linking it to other (often more important) business objectives, such as equipment reliability, reduced maintenance costs, 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 quarterly basis during the optional second year 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 onsite events and group workshops. The SEM energy manager function, with guidance from the SEM coach, will be deployed 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, including 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 on the SEM program and documentation of energy saving activities completed, summary of statistical basis and rationale for the baseline model and savings calculations, summary and rationale.

	<p>After the first year, participants can continue establishing energy management processes, working on projects and tracking savings using the energy models created in year one by joining a practitioner cohort for customers who've completed at least one year of SEM. The practitioner program will include maintaining energy models and compiling savings reports, conducting regular workshops, regular remote check-in meetings and an annual needs assessments 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.</p>
<p>Marketing Strategy</p>	<p>Given that this offering targets Nicor Gas' largest therm users, most of the customer participation will be accomplished through existing relationships developed by Nicor Gas' account management and energySMART outreach teams. The program will be marketed directly to business and public sector customers, including facility owners and property managers who use natural gas for space and water heating in their buildings.</p> <p>The marketing team will play a role in creating the collateral necessary to support the offering and help in the organization of events and cohort sessions.</p>
<p>Eligible Measures</p>	<p>The available measures are listed in the measure summary report in Appendix A. The key measures in the SEM Program include:</p> <ul style="list-style-type: none"> <li>- Low cost / no cost RCx</li> <li>- Commercial behavior savings</li> <li>- Customized projects</li> </ul> <p>Please see the measure summary report for more details.</p>
<p>Program Targets</p>	<p>The program budget and savings targets are provided in Table 19 below. Please note the figures are rounded to thousands.</p>

**Table 19 SEM Program Targets**

<b>THERMS</b>	
Gross Therms	3,863
Net Therms	3,863
Lifecycle Gross Therms	11,590
Lifecycle Net Therms	11,590
<b>BUDGET</b>	
Implementation Cost	1,132
<u>Incentive Cost</u>	<u>3,360</u>
Total	\$4,492
<b>\$ / Therm</b>	
\$ / Gross Therm	\$1.16
\$ / Net Therm	\$1.16
\$ / Lifecycle Gross Therm	\$0.39
\$ / Lifecycle Net Therm	\$0.39
<b>COST EFFECTIVENESS</b>	
TRC	1.77
PAC	1.68

Program Name	Small Business Program
Objective	<p>The Small Business Program's ("SB") objective is to obtain long-term natural gas energy savings from small business gas customers with energy efficiency retrofit and financial incentives to influence the installation of high efficient natural gas equipment. The assessment offering was designed and is implemented with the following objectives:</p> <ul style="list-style-type: none"> <li>• Affect an immediate reduction in natural gas consumption and corresponding cost in the small business market sector through direct installation of low-cost measures</li> <li>• Educate small business customers about the benefits of energy efficiency</li> <li>• Introduce small business customers to the Nicor Gas efficiency portfolio of offerings</li> <li>• Produce long-term energy savings in the small business sector by encouraging customers who would not have done so without rebates and incentives to participate in the Nicor Gas portfolio of energy efficiency offerings</li> <li>• Help customers take the next steps on their energy efficiency journey by providing customers with leave-behind materials including the Small Business Assessment Report</li> </ul>
Target Market	The target market for this program is those Nicor Gas business commercial/industrial customers and public sector customer using up to 60,000 therms of gas, annually.
Description	This program will provide small commercial gas customers with turn-key installation services and incentives to replace older, inefficient equipment and increase the overall efficiency of buildings. Unlike large commercial businesses that have access to greater technical and financial resources, the small business sector has limited access to specialized resources to undertake energy efficiency projects. Small businesses generally benefit from a turn-key and direct install approach where a single contractor conducts an audit to identify appropriate gas measures and also installs those measures. Where appropriate, Nicor Gas will make financing options available such as OBF.

	<p>The program offers a free energy assessment to introduce customers to energy efficiency, offer customers free energy efficient products and services, and create personalized Energy Assessment Reports to help customers identify and prioritize energy efficient improvements for their business, and increase their bottom line. The assessment also identifies potential energy efficiency rebates offered by Nicor Gas for which the customer qualifies to make it easier for customers to take the next step to saving energy and money. Small business customers may also qualify for higher custom incentives for large energy-saving projects.</p> <p>During the assessment, Energy Advisors offer customers free energy efficient products and services including low-flow bathroom and kitchen aerators, low-flow pre-rinse spray valves, salon sprayers, low-flow showerheads, and pipe insulation. Customers are given recommendations to improve the efficiency of their business. Recommendations align with the rebates available for small business customers for energy efficiency improvements and additions (i.e. pipe insulation, ozone laundry, and boiler reset controls), space and water heating, commercial food service equipment, steam traps, and boiler tune-ups.</p> <p>Small business customers may also directly apply for a rebate for energy efficiency projects in their facility. Qualifying small business customers are eligible for all of the business rebates with the exception of central domestic hot water controls which are available exclusively for multi-family customers.</p>
<p>Collaboration</p>	<p>The program will be primarily delivered by Nicor Gas.</p>
<p>Delivery Strategy</p>	<p>SB will be primarily delivered by a program implementation vendor. The vendor will contract with individual installation vendors and trade allies located regionally to conduct outreach to customers and provide turn-key installations. The overall delivery strategy is:</p> <ul style="list-style-type: none"> <li>• Marketing plan and implementation tactics focused on reaching and educating the small business customer.</li> <li>• 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.</li> <li>• Project facilitation supported by an experienced, well-educated, and motivated team of trade allies and engineers to ensure</li> </ul>

	<p>recommended energy efficiency projects are completed and installed correctly.</p> <ul style="list-style-type: none"> <li>• Knowledgeable and accessible customer support and marketing staff capable of directly addressing customer and trade ally inquiries, and escalating and directing other inquiries as necessary.</li> <li>• Cost effective quality assurance and verification activities to ensure installed savings are realized.</li> </ul>
<p>Marketing Strategy</p>	<p>Several communication strategies will be employed to drive participation. Efforts will include: targeted marketing by mail and email, and phone campaigns, 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, manufacturers and suppliers of equipment, and other industry stakeholders who can play a role in communicating the program benefits to customers will also be educated about the program purpose, requirements, and incentives.</p>
<p>Eligible Measures</p>	<p>The available measures are listed in the measure summary report in Appendix A. The key measures in the SB program include:</p> <ul style="list-style-type: none"> <li>- Steam Traps</li> <li>- Commercial water heating equipment</li> <li>- Customized Projects</li> <li>- High efficiency HVAC equipment and tune ups</li> <li>- Pipe insulation</li> <li>- Controls such as DCV, hot water circulation, thermostats</li> <li>- Commercial dryer controls and Ozone laundry.</li> </ul> <p>Please see the measure summary report for more details.</p>
<p>Program Targets</p>	<p>The program budget and savings targets are provided in Table 20 below. Please note the figures are rounded to thousands.</p>

**Table 20 SB Program Targets**

<b>THERMS</b>	
Gross Therms	2,379
Net Therms	1,947
Lifecycle Gross Therms	23,881
Lifecycle Net Therms	19,632
<b>BUDGET</b>	
Implementation Cost	4,596
<u>Incentive Cost</u>	<u>2,734</u>
Total	\$7,330
<b>\$ / Therm</b>	
\$ / Gross Therm	\$3.08
\$ / Net Therm	\$3.76
\$ / Lifecycle Gross Therm	\$0.31
\$ / Lifecycle Net Therm	\$0.37
<b>COST EFFECTIVENESS</b>	
TRC	1.83
PAC	2.61

Program Name	Business Energy Efficiency Rebate Program
Objective	<p>The Business Energy Efficiency Rebates (“BEER”) program’s goal is to produce natural gas energy savings in the business sector by promoting the purchase and installation of energy efficiency measures such as high-efficiency space heating, water heating and food service technologies, tune-ups and upgrades. This is accomplished by providing the direct installation of free, energy-saving products and by completing energy assessments of customers’ facilities and providing tailored energy efficiency project recommendations.</p>
Target Market	<p>The target market for this program is commercial, public sector and industrial customers that are either using 60,000 therms or more per year or who are part of a corporate-owned enterprise with more than 10 locations.</p>
Description	<p>The program promotes equipment such as high-efficiency natural gas furnaces and boilers. The energy efficiency rebate component influences the purchase and installation of high-efficiency space heating and water heating technologies. Prescriptive measures are marketed through a combination of market push and pull strategies as well as trade ally activities. These efforts stimulate demand, while simultaneously increasing market provider investment in stocking and promoting high efficiency products.</p> <p>Boiler measures are divided into hydronic, condensing, and steam boilers of varying size categories. Also included as prescriptive measures are boiler tune-ups, boiler reset controls, steam traps, thermostats, low-flow spray valves, infrared heaters, water heaters, unit heaters, pool covers, pipe insulation and an assortment of food service equipment.</p> <p>Further, BEER program offers technical assistance in the form of assessments and drop in assessment (opportunistic assessments of another business while in an area performing a scheduled visit), the direct installation of salon sprayers and additional indoor pipe insulation for customer facilities. The assessments culminate in a customer-facing report which summarizes the findings from the assessment and makes recommendations for energy-saving projects for the customer.</p> <p>In addition, Nicor Gas has committed to work with other utilities in the State to deliver a pilot upstream incentive offering for commercial kitchen</p>

	<p>rebates for eligible business customers (possibly funded through Research &amp; Development (“R&amp;D”) funds), with a focus on taking advantage of statewide distributor networks and the associated efficiencies, with a goal of implementing the program beginning in 2019.</p>
<p>Collaboration</p>	<p>The program will be primarily delivered by Nicor Gas.</p>
<p>Delivery Strategy</p>	<p>The overall delivery strategy consists of:</p> <ul style="list-style-type: none"> <li>• Marketing plan and implementation tactics focused on reaching and educating the small business customer;</li> <li>• 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;</li> <li>• Project facilitation supported by an experienced, well-educated, and motivated team of trade allies and engineers to ensure recommended energy efficiency projects are completed and installed correctly; and</li> <li>• Knowledgeable and accessible customer support and marketing staff capable of directly addressing customer and trade ally inquiries, and escalating and directing other inquiries as necessary.</li> </ul>
<p>Marketing Strategy</p>	<p>The driving force behind the equipment incentives is a combination of direct marketing to customers, effective outreach to market actors (e.g., trade allies) and to communities to support and increase their constituents’ engagement in the program.</p> <p>Trade ally participation and assistance in the promotion of this program has also been key in meeting our program goals. Therefore, energySMART has devoted substantial marketing and outreach efforts in order to educate trade allies about our program, create needed education and sales tools for the trade allies to be able to talk to customers about our offerings, and organize round tables and research to understand how to continue improving our partnership with our trade allies.</p> <p>The offering will also use targeted marketing tactics (emails, mail and direct outreach) to business customers, facility owners, and property managers who use natural gas for space and water heating in their buildings.</p>

	<p>Nicor Gas will investigate opportunities to engage customers who use commercial kitchen equipment in their business (e.g. restaurants and institutional kitchens) and corresponding trade allies and professional organizations.</p>																																		
<p>Eligible Measures</p>	<p>The available measures are listed in the measure summary report in Appendix A. The key measures in the BEER program include:</p> <ul style="list-style-type: none"> <li>- Steam Traps</li> <li>- High efficiency HVAC and water heating equipment</li> <li>- Commercial Kitchen Equipment</li> <li>- HVAC and mechanical tune ups</li> <li>- Controls such as DCV, hot water circulation, thermostats</li> <li>- Commercial dryer controls and Ozone Laundry</li> </ul>																																		
<p>Program Targets</p>	<p>The program budget and savings targets are provided in Table 21 below. Please note the figures are rounded to thousands.</p> <p style="text-align: center;"><b>Table 21 BEER Program Targets</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2" style="background-color: #0056b3; color: white;">THERMS</th> </tr> </thead> <tbody> <tr> <td>Gross Therms</td> <td style="text-align: right;">16,819</td> </tr> <tr> <td>Net Therms</td> <td style="text-align: right;">11,437</td> </tr> <tr> <td>Lifecycle Gross Therms</td> <td style="text-align: right;">166,553</td> </tr> <tr> <td>Lifecycle Net Therms</td> <td style="text-align: right;">113,256</td> </tr> <tr> <th colspan="2" style="background-color: #0056b3; color: white;">BUDGET</th> </tr> <tr> <td>Implementation Cost</td> <td style="text-align: right;">6,195</td> </tr> <tr> <td>Incentive Cost</td> <td style="text-align: right;"><u>4,906</u></td> </tr> <tr> <td>Total</td> <td style="text-align: right;">\$11,101</td> </tr> <tr> <th colspan="2" style="background-color: #0056b3; color: white;">\$ / Therm</th> </tr> <tr> <td>\$ / Gross Therm</td> <td style="text-align: right;">\$0.66</td> </tr> <tr> <td>\$ / Net Therm</td> <td style="text-align: right;">\$0.97</td> </tr> <tr> <td>\$ / Lifecycle Gross Therm</td> <td style="text-align: right;">\$0.07</td> </tr> <tr> <td>\$ / Lifecycle Net Therm</td> <td style="text-align: right;">\$0.10</td> </tr> <tr> <th colspan="2" style="background-color: #0056b3; color: white;">COST EFFECTIVENESS</th> </tr> <tr> <td>TRC</td> <td style="text-align: right;">5.54</td> </tr> <tr> <td>PAC</td> <td style="text-align: right;">9.62</td> </tr> </tbody> </table>	THERMS		Gross Therms	16,819	Net Therms	11,437	Lifecycle Gross Therms	166,553	Lifecycle Net Therms	113,256	BUDGET		Implementation Cost	6,195	Incentive Cost	<u>4,906</u>	Total	\$11,101	\$ / Therm		\$ / Gross Therm	\$0.66	\$ / Net Therm	\$0.97	\$ / Lifecycle Gross Therm	\$0.07	\$ / Lifecycle Net Therm	\$0.10	COST EFFECTIVENESS		TRC	5.54	PAC	9.62
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Program Name	Custom Incentives Program
Objective	<p>The purpose of the Custom Incentives (“Custom”) program is to assist medium to large commercial, multi-family non-prescriptive public sector and industrial customers in identifying and implementing cost-effective gas energy efficiency measures that are not otherwise addressed in Nicor Gas’ BEER or SB Program. Additionally, the Custom program will offer a Retro-Commissioning offering, assisting participants with low-cost and no cost tune-ups and adjustments to the operating systems, building controls, energy management systems and HVAC of existing buildings. The aim of the retro-commissioning will be to optimize operation and improve their building efficiency by returning them to their intended operation or design specifications.</p>
Target Market	<p>The target market for this program is commercial, public sector and industrial 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 or a multi-family non-prescriptive whole-building project.</p>
Description	<p>The Custom program provides cash incentives and technical assistance to assist with identification and implementation of energy efficiency retrofit opportunities not covered by other business energy efficiency programs. These projects involve unique or process-related equipment or multiple measures with interactive effects that are not well-suited for the prescriptive program. In this program, performance-based incentives are provided to customers working on larger-scale projects. Incentives are typically higher than prescriptive incentives and are based on an energy savings or engineering analysis. Technical assistance is provided to customers or their contractors to help quantify the energy savings opportunity and customize incentives for specific projects. The program also provides custom audits and engineering studies to assist customers in understanding their efficiency opportunities by quantifying the estimated project costs, energy savings, and forecasted incentives.</p> <p>The Retro-commissioning offering of the program helps commercial, public sector, and industrial customers identify and implement low and no-cost measures to improve efficiency of existing buildings. Services are delivered through a closed network of retro-commissioning trade ally service providers that have been trained in program protocols and processes. For smaller facilities, retro-commissioning providers conduct a targeted assessment of areas with substantial energy savings</p>

	<p>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 decision makers as well as facility operations and maintenance staff. Such education is provided through program outreach and assessment activities, and is also supported through market conditioning efforts, such as Building Operator Certification (BOC) training.</p>
<p>Collaboration</p>	<p>The program will be primarily delivered by Nicor Gas in collaboration with ComEd (Audits &amp; CHP).</p>
<p>Delivery Strategy</p>	<p>The program will be primarily delivered by a program implementation vendor. The implementation strategy will expand on the efforts already proven effective programs during plan years 4 through 6. The implementation vendor will provide assistance with the applications and conduct pre- and post-inspection visits on all larger projects to verify equipment installation and operation.</p> <p>The Custom projects will follow a multi-step application process using forms supplied specifically for the Custom Business Program. The customer must provide specific information, including site and measure data and estimated energy savings. The forms will be submitted to the implementation contractor for review and approval prior to equipment installation. The implementation vendor will review the application and may schedule an inspection of the existing equipment. Once approved, Nicor Gas will extend an Offer Agreement to the customer.</p> <p>The customer or customer’s agent will submit an installation report after all project measures are installed, fully commissioned, and are fully operational. All invoices and cost documentation must be attached. The implementation contractor may schedule an inspection of the installation equipment prior to approval of incentive payment. The implementation contractor will review the project and may choose to inspect the equipment prior to granting approval of the incentive. The implementation contractor will calculate the final incentive payment based on the reported savings.</p> <p>Nicor Gas’ internal staff, as well as the implementation contractor, will drive participation to this program through outreach activities to prescreened customers. The implementation contractor will conduct outreach to key market influencers, such as trade associations; energy</p>

service companies (ESCOs), engineering firms, and architects. Outreach may be in the form of 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 multi-family program.

Energy efficiency assessments or engineering studies may be performed by the implementation contractor or third-party engineering consultants. These studies will be subject to Nicor Gas pre-approval and quality review to ensure the accuracy of the savings and incentives calculations. Where appropriate, Nicor Gas and the partner electric utilities will coordinate their efforts to provide a more comprehensive (both gas and electric) assessment of the building opportunities for the customer and reduce the overall cost of the study.

Further, for retro commissioning offering the implementation vendor will oversee activities conducted by participating commissioning providers, review studies and provide independent evaluation of savings estimates, and provide post-installation verification. Key elements of program implementation include:

- Customer recruitment and application pre-screening to determine if the project qualifies under the program criteria;
- Initial project assessment: The implementation contractor and selected retro-commissioning service provider meets with the customer to determine if sufficient 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.
- Retro-commissioning study: The commissioning 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 retro-commissioning implementation contractor or an evaluation contractor will return to the project site to verify savings. If measures are not implemented in

	<p>accordance with the agreement, the customer will be responsible for repayment of all study costs and incentives received.</p> <p>Finally, the custom program will consider offering incentives for related projects installing equipment such as Combined Heat and Power (CHP) systems.</p>
<p>Marketing Strategy</p>	<p>Similar to the standard rebate program, the driving force behind the equipment incentives is a combination of direct marketing to customers, effective outreach to market actors (e.g., trade allies and local community groups and/or events).</p> <p>Trade ally participation and assistance in the promotion of this program has also been key in meeting our program goals. Therefore, energySMART has devoted substantial marketing and outreach efforts in order to educate trade allies about our program, create needed education and sales tools for the trade allies to be able to talk to customers about our offerings, and organize round tables and research to understand how to continue improving our partnership with our trade allies.</p> <p>The offering will also use targeted marketing tactics (emails, mail and direct outreach) to business customers, facility owners, and property managers who use natural gas for space and water heating in their buildings.</p>
<p>Eligible Measures</p>	<p>The available measures are listed in the measure summary report in Appendix A. The key measures in the Custom program include:</p> <ul style="list-style-type: none"> <li>- Customized projects</li> <li>- Retro-commissioning and Process heating projects</li> <li>- CHP</li> </ul> <p>Please see the measure summary report for more details.</p>
<p>Program Targets</p>	<p>The program budget and savings targets are provided in Table 22 below. Please note the figures are rounded to thousands.</p>

**Table 22 Custom Program Targets**

<b>THERMS</b>	
Gross Therms	16,505
Net Therms	14,072
Lifecycle Gross Therms	276,206
Lifecycle Net Therms	228,532
<b>BUDGET</b>	
Implementation Cost	7,187
Incentive Cost	9,998
Total	\$17,185
<b>\$ / Therm</b>	
\$ / Gross Therm	\$1.04
\$ / Net Therm	\$1.22
\$ / Lifecycle Gross Therm	\$0.06
\$ / Lifecycle Net Therm	\$0.08
<b>COST EFFECTIVENESS</b>	
TRC	3.54
PAC	11.66

Program Name	Business New Construction Program
Objective	<p>The objective of the Business New Construction (BNC) Program is to obtain energy savings during the design and construction of new buildings, major renovations of existing buildings, and tenant build-outs in the commercial, public sector and industrial market. Through collaboration with other Illinois utilities, a comprehensive regional new construction program is being provided that captures both gas and electric savings.</p>
Target Market	<p>The target market for business new construction program includes builders, developers, designers, engineering and architecture firms involved in the construction of new commercial, industrial or multi-family buildings to be used by Nicor Gas customers. The program will target new construction projects, as well as major renovation projects, in the early phase of design.</p>
Description	<p>The business new construction offering provides education, financial incentives and technical assistance to help building owners and design teams exceed the current energy codes.</p> <p>The business new construction offering targets projects that are early in design to maximize opportunities to employ high-performance building design strategies. Technical staff use energy modeling or whole building energy simulations to optimize the building design for energy performance. Modeling results include incentive amounts and energy cost savings estimates that allow the design team to identify design strategies and technologies that will have the greatest impact on the building's energy use. The program provides energy modeling support at no cost to program participants. Measure incentives reduce the incremental cost of installing energy-efficient equipment and help make the business case for implementing energy efficient design strategies. Design incentives offset the cost of coordinating with the program.</p> <p>This offering is open to new construction and major renovation projects in the commercial, public sector industrial, Income Qualified and multi-family markets. Non-residential and multifamily buildings must be at least 5,000 square feet to qualify for participation. Project plan must include (for joint gas and electric territories) the improvement of at least two major building systems including lighting, primary HVAC equipment, envelope or qualified refrigeration systems.</p>

<p>Collaboration</p>	<p>It is the intent of Nicor Gas to offer this program jointly or in collaboration with other PUAs and regional electric and municipal utilities.</p>
<p>Delivery Strategy</p>	<p>The majority of projects are proactively recruited into BNC 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 <i>Construction Wire</i>, <i>Curbed Chicago</i>, and <i>Crane’s Real Estate Daily</i>. The team leverages relationships with local trade associations such as AIA Chicago, ASHRAE Illinois and USGBC Illinois to identify projects that are good candidates for BNC.</p> <p>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. Repeat customers are more familiar with program requirements and value the program’s technical assistance offerings and incentives.</p> <p>The business new construction offering 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, the business new construction 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 window of opportunity for influencing building design decisions is short. 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.</p> <p>The technical assistance offering is tailored to meet the needs of an individual project. Technical assistance may include any of the following elements:</p> <ul style="list-style-type: none"> <li>• Conceptual energy modeling to evaluate tradeoffs early in the design process</li> </ul>

	<ul style="list-style-type: none"> <li>• Preliminary recommendations based on industry best practice</li> <li>• Full energy modeling, quantifying energy savings from system interactions</li> <li>• Scaled energy modeling (custom spreadsheet analysis)</li> <li>• Energy model output listing baseline assumptions, recommended ECMs, estimated energy savings, cost savings and financial incentives</li> <li>• Participation in project meetings with design team and customer</li> <li>• Presentation/explanation of the energy modeling results to team</li> <li>• Design assistance</li> <li>• Research and information on specific energy-saving technologies</li> </ul>
<p>Marketing Strategy</p>	<p>The program will be marketed to building owners and managers and to design professionals, trade allies and contractors. Outreach to building owners and managers will be accomplished through customer “big check” events for successful projects, case studies, direct marketing, trade ally trainings, education events and Nicor Gas account executive contact or EEP marketing contact</p> <p>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 that bringing their customers a better building can have for their business.</p>
<p>Eligible Measures</p>	<p>The available measures are listed in the measure summary report in Appendix A. The key measures in the BNC program include:</p> <ul style="list-style-type: none"> <li>- Small and mid-size new construction</li> <li>- Large new construction</li> </ul> <p>Please see the measure summary report for more details.</p>
<p>Program Targets</p>	<p>The program budget and savings targets are provided in Table 23 below. Please note the figures are rounded to thousands.</p>

**Table 23 BNC Program Targets**

<b>THERMS</b>	
Gross Therms	1,633
Net Therms	1,257
Lifecycle Gross Therms	40,815
Lifecycle Net Therms	31,427
<b>BUDGET</b>	
Implementation Cost	2,263
Incentive Cost	<u>842</u>
Total	\$3,105
<b>\$ / Therm</b>	
\$ / Gross Therm	\$1.90
\$ / Net Therm	\$2.47
\$ / Lifecycle Gross Therm	\$0.08
\$ / Lifecycle Net Therm	\$0.10
<b>COST EFFECTIVENESS</b>	
TRC	4.15
PAC	9.20

## 5 Portfolio Support Functions

### 5.1 Portfolio Administration

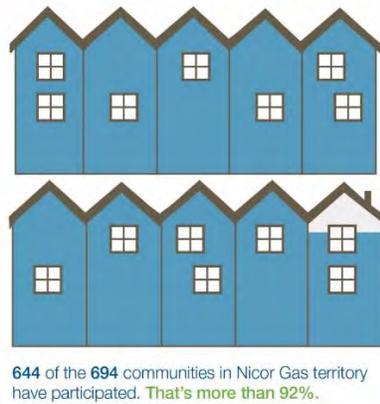
Nicor Gas has continued to evolve and grow internal core competencies consistent with the strategy to deliver a first class, comprehensive portfolio to Nicor Gas customers since the inception of energySMART in 2011. To accommodate this ramp-up and evolution of the program over time, energySMART is leading the way through innovations in program design, collaboration, and new technologies with the newest effort in Market Transformation initiatives. During the first six years as of the filing of this plan, energySMART has reached customers in 644 out of 694<sup>4</sup> (Figure 8 below) communities in the Nicor Gas service territory, or greater than 92% of the entire territory. As reported in the Illinois SAG, Nicor Gas has delivered more lifecycle therm savings<sup>5</sup> (gross) than all of the other gas programs (including the Department) combined over the first reported three years of program offerings (Figure 9 below) and expected to continue that trend as PY6 closes. The number of participating contractors and trade allies engaged in the program remains strong with more than 9,000 contractors participating, and over 300 contractors who are part of the Contractor Circle who leverage energySMART branding and tools/services such as the online “Find a Contractor” tool. The majority of rebates issued per year are for equipment or improvements installed by Contractor Circle members. For example, 100% of rebates issued for air sealing and attic insulation were for work performed by Contractor Circle members. Customer engagement in energySMART (measured by inbound and outbound customer calls, website visits, email opens and click-throughs, and outreach interactions) increased by more than 450% compared to the previous 3-year cycle. energySMART continues to mature, and expand in reach, engagement and value for Nicor Gas customers throughout Illinois.

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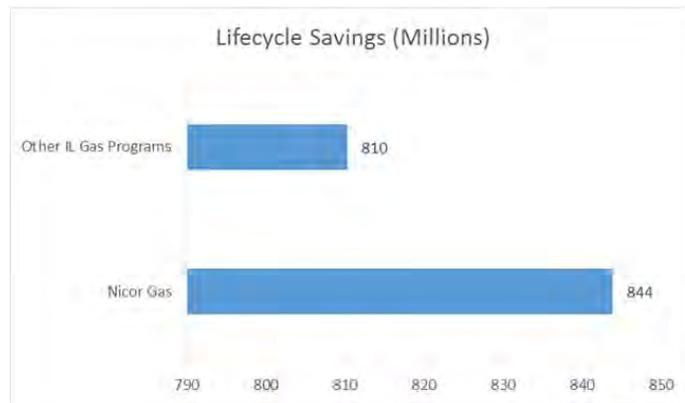
<sup>4</sup> [http://www.aglresources.com/about/distribution\\_nic.aspx](http://www.aglresources.com/about/distribution_nic.aspx)

<sup>5</sup> [http://www.ilsag.info/subcommittee\\_il-ee-successes.html](http://www.ilsag.info/subcommittee_il-ee-successes.html)

**Figure 8 Nicor Gas energySMART customer reach**



**Figure 9 Lifecycle Gross Therm Savings through GPY3**



As the program has matured, the synergies of insourcing many previously outsourced administrative activities has facilitated cost-effective delivery of a first class portfolio to Nicor Gas customers with offerings they desire, in ways they understand and how they choose to participate. Over the past six years, Nicor Gas has developed internal core competencies around trade ally management, planning, data management, marketing, and customer care. As these skills have developed, further synergies including advanced data analytics, deeper program management, market transformation and direct outreach will continue to be performed by energySMART staff in the next four year plan and beyond.

Nicor Gas has been building on a long-term strategy with each new portfolio cycle advancing on the efforts of the past. In addition, the engagement with stakeholders in IL continues to mature, as policy and protocols are evolving as well. For example, within the first three year portfolio, the stakeholders, Nicor Gas and other plan administrators in Illinois negotiated and drafted a

statewide TRM and established a NTG policy. In the second three year cycle, a statewide Policy Manual was created that embodies principals that are reflected in this current filing. These are significant achievements for everyone involved; utilities, regulators, consumer and environmental advocacy groups, trade allies & contractors, and most significantly, customers. There are many utilities outside of Illinois that took decades to achieve what these parties have accomplished in Illinois in a few short years.

Broadly speaking, the SAG process has helped bring all stakeholders to the table in order to solve and build statewide consensus. As Nicor Gas' energy efficiency program continues to mature and reset at a fairly flat budget level, statewide policy and regulatory matters also continue settling into more of a steady-state. However, until that steady-state is achieved, additional costs and administrative resources borne by all parties associated with energy efficiency in Illinois will continue to be incurred over the next four year plan period.

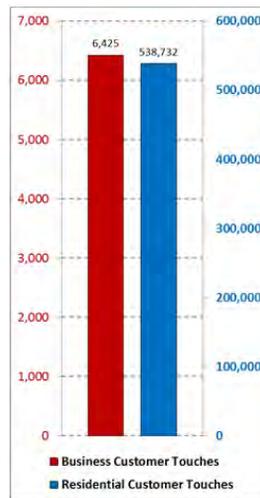
Over the past years, Nicor Gas has continued to leverage collaboration and coordination among the utilities, the Department, and many of the market actors through trade ally focus groups, emerging technology entrepreneurs and other partnerships. This has been a model of success. Through such collaborations, Nicor Gas has leveraged savings associated with joint marketing, customer acquisition and program delivery. Joint and collaborative programs have allowed Nicor Gas to engage with customers with a holistic offering that strives to address both gas and electric needs. Through these partnerships, Nicor Gas and ComEd have been leaders across the US in these efforts. The SEM offering is the first in the Midwest where two separate utilities have come together to serve a common customer to offer such a service. Although there are some additional costs and complexity associated with such partnerships, the net benefit to the customer is obvious. Since the launch of the very first programs during Rider 29, Nicor Gas has voluntarily reached out to our partners to coordinate offerings across northern Illinois. While not perfect, these efforts continue to create a streamlined and simple offering to our joint customers, and will be an important continuing evolution throughout the next four year plan delivering maximum benefits to our customers in an efficient way. New partnerships are already being forged as energySMART begins work in new sectors with new partners associated with disadvantaged communities.

Core competencies that have been moved in-house also include planning and information technology. Unlike the early startup years, the Nicor Gas energy efficiency department now houses customer, program and market information in a data warehouse called energyENGINE. This three-year effort is paying dividends now and will continue into the future. Now that the data is consolidated from multiple sources and integrated, the next steps involve using data analytics for marketing, program design, planning, real-time evaluation and a host of other applications. Investments in energyENGINE have already proven useful in the current plan operations, targeted marketing, and have been used in the design of this four year plan filing. Further development of these capabilities in-house over this next four year cycle and beyond will continue to allow the portfolio to avoid costly third-party services and products that are in the market today.

In order to continue to grow and mature along with the program, our customers, trade allies and other market actors, the entire “administration” of the portfolio will accomplish over the next four-year portfolio:

- Engagement with over 500 thousand customers over four years (Figure 10) to install over 900 thousand energy efficiency measures and projects
- Delivery of over 66 million therms of savings and almost \$25 million<sup>6</sup> in reduced gas bills
- Assistance to more than 9 thousand trade allies to understand, engage, and “sell” high efficient equipment and services
- Oversight and direction of the \$160 million portfolio managed by with approximately 45 internal and over 100 contract jobs in Illinois that would not exist without energySMART

**Figure 10 Nicor Gas planned Households and Businesses Penetration**



<sup>6</sup> Assuming commodity price of Natural Gas at \$0.40 per therm.

## Organizational Structure

The program management and administration of the energy efficiency team is comprised of internal Nicor Gas staff and external staff from implementation contractors. The internal team consists of approximately 45 positions. The organizational structure and tasks are summarized below.

The internal energy efficiency organization reports to the Vice President of Nicor Gas Business Support, whose role has executive oversight responsibilities for the Nicor Gas energy efficiency programs.

Nicor Gas' energy efficiency program is managed by two Managing Directors, with an organization that is structured around four major functions:

1. Operations and Planning;
2. Quality Assurance and Evaluation (Accounting, Information Technologies and Regulatory);
3. Marketing and Communications; and,
4. Customer Outreach and Partner Services.

Although Nicor Gas will hire implementation contractors to perform the majority of transactional tasks and some day-to-day program tasks, it is important for energySMART to have an internal workforce responsible for overall oversight, marketing, information systems, and program management of the portfolio. Over the course of time, Nicor Gas will continue to internalize additional aspects of these core competencies as critical synergies are identified to manage a successful customer-focused and needs-driven program.

The primary tasks for each function are listed below. Detailed explanation of various functions is provided below.

### Operations and Planning

- Provide overall management and oversight on energy efficiency programs delivery and implementation to meet the statutory goals.
- Manage vendors performing implementation activities including vendor relationships and performance.
- Coordinate and collaborate on jointly implemented programs with other utilities and municipalities.
- Propose changes to program parameters to improve performance.

- Perform research and analysis including benefits-cost analysis on energy efficiency measures, programs and over-all portfolio to drive a cost effective program.
- Provide data analytics research, deep analysis of program activity, and identify trends that will inform the design, management, targeting and quality of the overall portfolio.
- Champion and lead IL in strategies to generate new ideas and technologies through testing and pilots, and build an approach that result in long term market transformation over time.
- Collaborate with IC's to develop thorough and accurate technical assumptions for energy savings measures.
- Lead efforts to update and include new measures in the Illinois technical reference manual.
- Assist IC's with cost effectiveness analysis on proposed measures and programs, available market and joint offerings with other utilities.
- Conducts inter year and intra year programs planning adjustments to assure energySMART meets goals.
- Develop, design and plan the four-year portfolio.
- Provide market research and intelligence to develop new offerings suitable to customer needs in the Nicor Gas service territory leveraging the emerging technologies program.

#### Quality Assurance and Evaluation (Accounting, Information Technologies and Regulatory)

- Produce forecasts for each program.
- Process and verify invoices to ensure pricing, activities and services conform to contractual terms.
- Develop, update and administer information technologies that support energySMART.
- Make necessary filings with the Illinois Commerce Commission (testimony related to docketed cases, data requests, quarterly updates and other interrogatories).
- Develop and provide program quality assurance oversight.
- Coordinate and collaborate with the Department and government officials.

- Coordinate efforts with third party EM&V contractors, IC's, SAG, and others to assure evaluation activities are completed, evaluation recommendations are vetted and implemented, and lessons learned applied.

#### Marketing and Communications

- Achieve a consistent brand messaging across energySMART and cross-promote offerings with a centralized EEP marketing and communications team.
- Plan, implement and direct overall program marketing, communications, public relations, public affairs and internal/external outreach efforts.
- Build internal capabilities to perform customer segmentation analysis and drive energySMART program participation in-house.
- Create mail and email communication, content development, technical and trade ally collateral development, website design and maintenance, and technical or trade ally event coordination and staffing.
- Develop educational and community outreach materials and programs.
- Coordinate with other Illinois IOUs to deliver consistent messaging to customers and trade allies across our service territory.

#### Customer Outreach and Partner Services

- Manage, support and provide oversight of rebate processing and marketing and outreach center operations.
- Manage customer and trade ally outreach to drive participation in our residential offerings.
- Conduct inbound and outbound calls to direct customers to the correct program offerings, solve customer problems, and encourage customers to take additional energy saving actions.
- Staff community outreach events.
- Follow up and engage with program participants through surveys, focus groups, and other strategies to develop insights into participant behavior on installed energy savings measures.
- Manage and coordinate the procurement process within the department.
- Coordinate meeting and conference functions.

- Collaborate with on-bill financing efforts to ensure feature of energySMART are available to customers.

## 5.2 Portfolio Marketing

Portfolio Marketing is a key component of the program. Some elements such as marketing, education, and outreach, do not lend themselves to direct allocations to specific savings estimates but do serve as an integral component for achieving savings within the portfolio.

### Communication and Outreach strategy

energySMART's communication and outreach strategy has evolved since the program's inception from a broad, decentralized approach to a targeted and customer-centric strategy, focused on simple, relevant and consistent messages and a balance between broad and targeted reach. The result of this transition has been deeper and more effective customer engagement and barrier-free participation. The program marketing, communications and outreach strategy for EEP 2018-2021 will continue to build on the foundation of a customer-centric, relevant and targeted approach established during plan years four through six. By leveraging the resources created over the past few years, including the energySMART Marketing and Outreach Center and the energyENGINE data warehouse, energySMART will achieve a balance between broad awareness, targeted outreach and relevant communications to engage customers.

### energySMART Awareness

Through customer and contractor feedback, we continue to find that broad awareness and education about energySMART offerings, the website (nicorgasrebates.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 outreach and communication strategy with messages that inform customers of the program through channels including:

- Television, radio and billboards
- Community partnerships and events, such as the Brookfield Zoo and Naperville Ribfest
- Bill inserts, email communications and other customer communications

The program website will continue to serve as the central portal for educational resources and information. An online store may be added as an additional way to engage customers and streamline the rebate application process. The Marketing and Outreach Center and the Contractor Circle network will continue to serve as the front lines of outreach, service and support for customers. Local community/low-income agencies will assist in the education, marketing and outreach to Income Qualified customers.

### energyENGINE Segmentation and Targeting

Building on the energyENGINE (energySMART's data warehouse) and integrated email marketing platform implemented during PY4 through PY6, energySMART 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 point-of-sale rebates at outreach events or at physical or web-based retail locations. energySMART will also incorporate digital media and search engine optimization to compliment the personalized, local experience for customers.

Targeted marketing, communications and outreach efforts may include:

- 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, energySMART has significantly increased customer engagement and education by sending relevant 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, customers experience more personalized communications and messages are relevant (not promoting offers that they have already taken advantage of). Open and click-through rates of customer email communications have nearly doubled (Figure 11) since implementing in-house email marketing and targeting content based on data available through the energyENGINE.