

# **C&I and PS RetroCommissioning Impact Evaluation Report**

**Energy Efficiency Plan: Program Year 2024  
(1/1/2024-12/31/2024)**

**Prepared for:**

**Peoples Gas and North Shore Gas  
FINAL**

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## Introduction

This report presents the results of the impact evaluation of the Peoples Gas (PGL) and North Shore Gas (NSG) 2024 Commercial and Industrial (C&I) and Public Sector (PS) Retro-Commissioning program. It summarizes the energy impacts for the total program and broken out by relevant measure and program structure details. The appendix presents the impact analysis methodology. Program year 2024 covers January 1, 2024 through December 31, 2024.

The 2024 C&I and PS Retro-Commissioning program is offered jointly to customers served by ComEd, Nicor Gas, PGL, and NSG. This report presents the results of the impact evaluation for PGL and NSG.

## Program Description

The C&I and PS Retro-Commissioning program has been part of ComEd's Energy Efficiency program portfolio since 2007. In 2010, ComEd began coordinating the program with the gas utilities that also serve ComEd customers. ComEd manages and funds the program, and the gas utilities have the option to share the program costs and savings with ComEd on a project-by-project basis. The overlapping gas territories include Nicor Gas, Peoples Gas, and North Shore Gas.

The C&I and PS Retro-Commissioning program helps commercial and industrial customers improve the energy performance of their facilities through systematic analysis of existing building systems. Program-qualified energy efficiency service providers (EESPs) recruit participants, conduct energy studies, and recommend energy saving measures to implement. EESPs are required to verify implemented projects and measures before the project is considered complete.

Generally, the program pays 100% for a detailed study, contingent on a participant's commitment to spend a defined amount of their own funds implementing study recommendations with a simple payback of 18 months or less. In 2024, the program consisted of two tracks: Monitoring-Based Commissioning (MBCx) and Retro-Commissioning Flex (RCx).

- **MBCx** projects are supported by a multiyear agreement between the building owner and the EESP. This approach identifies, analyses, implements, and verifies multiple bundles of measures on a rolling basis with the EESP monitoring building automation system (BAS) data periodically using integrated, program-installed software to document ongoing savings. Measure savings are counted toward program goals in the calendar year they are submitted based on EESP monitoring since the prior submitted savings.
- **RCx** projects generally last 6-15 months and include a fully funded RCx study, which includes the costs of engineering services and additional performance-based incentives. To receive the study, participants must agree to implement mutually agreed upon energy conservation measures (ECMs) with a simple payback of 18 months or less.

Peoples Gas participated in the program with 16 participants in 2024 and completed 26 projects, as shown in Table 1.

**Table 1. 2024 Volumetric Summary for PGL**

Participation	Total
<b>Private Sector</b>	
Participants *	14
Installed Projects †	24
<b>Public Sector</b>	
Participants *	2
Installed Projects †	2
<b>Program 2024 Total</b>	
Participants *	16
Installed Projects †	26

\* Participants are defined as unique Address

† Installed Projects are defined as unique project and bundle combination

Source: Peoples Gas tracking data and evaluation team analysis.

Table 2 summarizes the installed measure quantities that are the basis for verified energy savings for PGL.

**Table 2. 2024 Installed Measure Quantities for PGL**

Program Category	Measure	Quantity Unit	Installed Quantity
Private	RCx Project	Project	24
Public	RCx Project	Project	2

Source: Peoples Gas tracking data and Guidehouse evaluation team analysis.

North Shore Gas participated in the program with one participant in 2024 and completed one project, as shown in the following table.

**Table 3. 2024 Volumetric Summary for NSG**

Participation	Total
<b>Private Sector</b>	
Participants *	1
Installed Projects †	1

\* Participants are defined as unique Address

† Installed Projects are defined as unique project and bundle combination

Source: North Shore Gas tracking data and evaluation team analysis.

Table 4 summarizes the installed measure quantities that are the basis for verified energy savings for NSG.

**Table 4. 2024 Installed Measure Quantities for NSG**

Program Category	Measure	Quantity Unit	Installed Quantity
Private	RCx Project	Project	1

Source: North Shore Gas tracking data and Guidehouse evaluation team analysis

## Program Savings Detail

Table 5 summarizes the energy savings the PGL C&I and PS Retro-Commissioning Program achieved in 2024.

**Table 5. 2024 Annual Energy Savings Summary for PGL**

Program Category	Ex Ante Gross Savings (Therms)	Verified Gross RR*	Verified Gross Savings (Therms)	NTG†	Verified Net Savings (Therms)
Private, Non-Disadvantaged Communities	388,346	101%	390,490	0.98	382,680
Public, Non-Disadvantaged Communities	38,275	99%	37,722	0.98	36,967
<b>Total or Weighted Average</b>	<b>426,621</b>	<b>100%</b>	<b>428,211</b>	<b>0.98</b>	<b>419,647</b>

\* Realization Rate (RR) is the ratio of verified gross savings to ex ante gross savings based on evaluation research findings.

† NTG, Net to Gross is the deemed value available on the SAG website: <https://www.ilsag.info/evaluator-ntg-recommendations-for-2024/>.

Disadvantaged communities (DAC) designated sites based on census tract have an NTG of 1.00.

Source: Evaluation team analysis.

Table 6 summarizes the energy savings the NSG C&I and PS Retro-Commissioning Program achieved in 2024.

**Table 6. 2024 Annual Energy Savings Summary for NSG**

Program Category	Ex Ante Gross Savings (Therms)	Verified Gross RR*	Verified Gross Savings (Therms)	NTG†	Verified Net Savings (Therms)
Private, Non-Disadvantaged Communities	256	98%	250	0.98	245
<b>Total or Weighted Average</b>	<b>256</b>	<b>98%</b>	<b>250</b>	<b>0.98</b>	<b>245</b>

\* Realization Rate (RR) is the ratio of verified gross savings to ex ante gross savings, based on evaluation research findings.

† NTG, Net to Gross is the deemed value available on the SAG website: <https://www.ilsag.info/evaluator-ntg-recommendations-for-2024/>. Disadvantaged communities (DAC) designated sites based on census tract have an NTG of 1.00.

Source: Evaluation team analysis.

## Impact Analysis Findings and Recommendations

**Finding 1.** For project ID 23-0008 Bundle #4 and Bundle #5, the ex ante savings did not include the boiler efficiency in the calculations for natural gas savings. Guidehouse included the boiler efficiency of 83% in the verified savings for these measure bundles, resulting in a gas savings realization rate greater than 1.00.

**Recommendation 1.** Enhance quality control procedures to reduce these errors and verify that equipment efficiency, where relevant, is included in the savings calculation.

**Finding 2.** For multiple projects, particularly those using legacy custom calculation templates, the evaluation team sometimes noted a lack of clear documentation of assumptions and other relevant context in the workbook.

- 24-0021 Bundle #1.** The Excel calculator for this project included a summary worksheet that listed each rooftop unit (RTU) impacted by the measure and a description of the changes implemented for each RTU to generate savings. The calculator also included within the calculation worksheet for each RTU (18 total), a table documenting equipment information and other calculation inputs along with their source. Guidehouse recommends this as a best practice.
- 23-0003 Bundle #2.** Both the ex ante and verified savings for this project were calculated using two calculation methodologies (one based on trend data and the other based on test data) that yielded slightly different savings estimates. The program claimed the less conservative savings result (based on test data) with no additional reasoning for choosing one over the other. The evaluation team verified the more conservative savings estimate based on the availability and review of the supporting trend data.
- 22-0021 Bundle #3.** The custom calculator for this project also included savings for a measure bundle that is expected to be submitted in the future. However, the documentation within the calculator does not make this distinction or provide any context around the intent to claim those savings in a future measure bundle. To align with the reported savings, the evaluation team verified savings corresponding to only the measures included in the ex ante savings estimate.

**Recommendation 2.** Guidehouse recommends the following best practices with regards to savings calculator organization and documentation: Include clear documentation of input and outputs within the custom calculators along with their source where relevant. If savings for an ECM are expected to be split into multiple bundles, they should be clearly labeled to avoid confusion and the possibility of double-counting. If savings for a particular piece of equipment or temperature range are being excluded from a measure bundle, it should be clearly indicated within the documentation along with an explanation for doing so (e.g., to allow more time to collect season-specific trend data). For projects where the ECM is affecting several pieces of equipment (e.g., multiple RTUs, air handling units, fans, boilers etc.), the savings for each impacted equipment should be clearly laid out and documented.

**Finding 3.** The evaluation team has observed an increase in the number of partial savings bundles accepted by the program. For example, separate measure bundles may be submitted for the same measure, one claiming only electric savings first, followed by the gas savings bundle later in the year once winter heating data becomes available. While Guidehouse does not object to this savings submission approach, it has the potential to present issues like double-counting unless the intention to claim the remaining savings from an implemented measure in future bundles is clearly stated within the project documentation. During our review, the evaluation team noted that some projects that followed this approach had clearly indicated that additional savings would be claimed once relevant data was available, but others were not as clear. To align with the reported savings, the evaluation team only verified savings corresponding to the measure components included in the ex ante savings estimate.

- **21-0020 Bundle #2.** The verification report clearly indicated that additional heating season savings (below 20°F outside air temperature) for ECM #2 would be considered as a future measure once winter operation data is available.
- **22-0021 Bundle #3.** This project excluded some temperature ranges from claimed savings without any explanation.
- **22-0010 Bundle #19.** The project documentation had no explanation for excluding gas savings resulting from measure implementation. On inquiry, the implementation team confirmed that the gas savings from this ECM will be claimed under Bundle #20 approved in 2025.

**Recommendation 3.** Require the EESPs to be very explicit in their project descriptions and calculation workbooks with regards to the scope of the measure bundle in instances where partial savings are being claimed. When the additional savings are claimed for the measure in a future bundle, the EESPs should again clearly document both the current bundle and any precursor submissions so that savings are not over or understated in either bundle.

**Finding 4.** For multiple projects, the ex ante custom calculations extrapolated limited BAS data from monitored temperature ranges to higher and lower temperatures to characterize savings for a full year. These extrapolations, while often robust, can be improved.

- **23-0008 Bundle #2.** The 22°F-24°F and 26°F-28°F bins had only one and two observations for preheat temperature in the baseline condition, respectively. If those observations are exceptional, they can distort extrapolations. The evaluation team based the preheat temperature for these temperature bins on the observations for the adjacent bins (20°F-22°F and 24°F-26°F and 28°F-30°F, respectively) with more robust data.

- Extrapolations in some projects (e.g., 24-0010 and 22-0010) were based on the full range of available BAS data, spanning different modes of operation (mechanical cooling, free cooling, and heating). Different temperature setpoints are expected to apply in each operating mode, so temperature estimations based on extrapolations spanning different modes of operation are likely to deviate from actual operation. In these cases, the evaluation team adjusted datapoints to flatline the estimate for parameters like supply air temperature.
- **23-0008 Bundle #5.** At the extremes of the extrapolations, the evaluation team noted some parameter value estimates to be unreasonable. For example, extrapolations estimated mixed air temperatures (MATs) at lower outside air temperatures (OATs) to be close to freezing (e.g., MAT for AHU-SURG-10-4 at the -8°F bin is estimated to be 32.8°F) while maintaining a constant intake of outside air in the system, which does not represent how these systems would be operated in real-life. The evaluation team assumed that the MAT observed at the lowest temperature bin (20°F for AHU-SURG-10-3 and 18°F for AHU-SURG-10-4) in the trend data would be maintained even at lower OATs by reducing the intake of outside air in the system.

**Recommendation 4.** Enhance quality control procedures when using extrapolations and employ additional scrutiny on estimated parameters for reasonability and representation of actual in the field operation. Some recommended guidelines include:

- Each bin parameter should be based on at least 5 observations. Omit bins form extrapolations if BAS data is inadequate.
- Base extrapolations on data from the same operating mode (i.e., do not include bins above 50°F for heating mode extrapolations). Do not include bins below 70°F for cooling mode extrapolations.
- Review the results of extrapolations that produce parameter values outside of normal operation range for relevant equipment. Employ bounds on the extrapolations or justify abnormal parameters in the calculation documentation.

**Finding 5.** Starting in 2024, the evaluation team is using the TMYx 2007-2021<sup>1</sup> weather data representative of the location of the project being evaluated to derive normalized savings estimates. The evaluation team noted that ex ante savings estimates for some projects (e.g., 23-0025 and 15-106), especially those enrolled in MBCx several years ago, are still using the older TMY3 weather dataset. The TMYx data also includes additional locations with better proximity to some project sites. Thus, a project (e.g., 23-0017 and 23-0008) in the Chicago loop area that once used Midway TMY3 weather data should now use the more representative Northerly Island TMYx weather data.

**Recommendation 5.** Implement quality control checks on both the edition of the Typical Meteorological Year weather data and the weather station used for savings estimation to ensure uniform use of proximal datasets. Employ increased scrutiny for projects that enrolled in the program several years ago.

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[https://climate.onebuilding.org/WMO\\_Region\\_4\\_North\\_and\\_Central\\_America/USA\\_United\\_States\\_of\\_America/index.html#IDIL\\_Illinois-](https://climate.onebuilding.org/WMO_Region_4_North_and_Central_America/USA_United_States_of_America/index.html#IDIL_Illinois-)

**Finding 6.** Peoples Gas classified two projects (WO-6645775 and WO-4296829) as Disadvantaged communities (DAC) designated sites in their ex ante net savings estimate. Guidehouse, on review of the location and energy consumption level for all projects, did not classify any projects as DAC designated sites. Both projects flagged as DAC designated sites in the tracking data were noted to exceed the annual consumption threshold.

**Recommendation 6.** Continue to track DAC designated sites in the tracking data and ensure that only projects that meet the criteria for eligibility are classified as DAC designated sites.

**Finding 7.** Peoples Gas classified only one project (WO-4296829) as a public sector project in their tracking data. Guidehouse classified two projects (WO-4296829 and WO-6645775) as public sector projects using the ComEd tracking data.

**Recommendation 7.** Continue to track if the project participants are publicly owned or privately owned sites in the tracking data and ensure consistency with the ComEd tracking data.

## Appendix A. Impact Analysis Methodology

### *Ex Ante Estimates*

EESPs estimated ex ante energy savings with custom algorithms, frequently using hourly weather data and time-series trend data applied in engineering relationships of energy, temperature, and mass transfer. Alternatively, when data supported the method, EESPs determined savings by regressions of utility-metered energy use versus outdoor temperature and other independent variables. When energy efficiency measures had a climate-related component, service providers used standard weather data sets (typical meteorological year, or TMY)<sup>2</sup> for proximal locations to estimate weather-normalized savings.

### *Evaluation Methods*

The evaluation team used a stratified random sampling approach to select the gross impact sample. In 2024, the evaluation team reviewed 35 projects<sup>3</sup> (34% of the total) and 345,409 therms (61% of the total claimed). The team sorted projects based on the level of ex ante kWh savings and presence or absence of therms savings, and then placed the projects into six strata. Within each stratum, the team selected a random sample of projects for analysis.

The evaluation team reviewed each sampled project and its measures individually to validate the savings, usually using the same methods as the ex ante estimate. Savings calculation reviews ensured the savings estimates were accurately modeled, used consistent inputs, and included reasonable assumptions, as required. In some cases, the team acquired additional trend data or interval meter data to verify savings with more data and data concurrent with expected savings (e.g., winter data for winter measures). In most cases, the impact evaluation involved analysis of time-series trend and measured data both pre and post implementation. In all cases, the evaluation team normalized savings estimates to TMYx 2007-2021<sup>4</sup> weather data to minimize the effects of atypical weather variation.

For a nested sample of projects (selected from projects sampled for engineering review), Guidehouse performed onsite inspections to determine whether implemented measures were still operating as described in project documentation (setpoints, affected equipment, hours of operation, etc.). For projects not selected for an onsite inspection, evaluators supplemented desk reviews with phone interviews with building operators and reviewed BAS via remote connection or teleconferencing.

In cases where the evaluation team's verified inputs were inconsistent with EESP reported data, such as setpoints or operational hours, the team re-estimated savings with available data, additional data requested from the participant, the program team, or program guideline inputs.

Table A-1 shows a profile of the sample selection.

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<sup>2</sup> A TMY data set provides an annual data set at the hourly level that typifies weather conditions for a certain location over a long period of time (e.g., 30 years).

<sup>3</sup> The evaluation team reviewed 35 individual sample points because the team randomly selected multiple bundles for seven projects in CY2024.

<sup>4</sup>[https://climate.onebuilding.org/WMO\\_Region\\_4\\_North\\_and\\_Central\\_America/USA\\_United\\_States\\_of\\_America/index.html#IDIL\\_Illinois-](https://climate.onebuilding.org/WMO_Region_4_North_and_Central_America/USA_United_States_of_America/index.html#IDIL_Illinois-)

**Table A-1. Profile of Gross Impact Sample for RCx Projects**

Population Summary				Sample Summary		
Program	Sampling Strata	Number of Projects (N)	Ex Ante Gross Savings (Therms)	n	Ex Ante Gross Savings (Therms)	Sampled % of Population (% Therms)
C&I and PS Retro-Commissioning	Large	6	-	6	-	N/A
	Large – Gas	3	149,317	3	149,317	100%
	Medium	12	-	6	-	N/A
	Medium – Gas	11	184,556	6	44,651	24%
	Small	35	-	7	-	N/A
	Small – Gas	35	236,671	7	151,441	64%
<b>TOTAL</b>		<b>102</b>	<b>570,544</b>	<b>35</b>	<b>345,409</b>	<b>61%</b>

Note: The population and the sample summary represent all projects completed in 2024 as per the ComEd tracking data, corroborated with the PGL and NSG data. Here, we show the gas sample disposition.

Source: Evaluation team analysis.

## Savings Rollup

There are two basic statistical methods for combining individual gross realization rates from the sample projects into an estimate of verified gross kWh savings for the population when using stratified random sampling: separate and combined ratio estimation.<sup>5</sup> In the case of a separate ratio estimator, a separate gross kWh savings realization rate is calculated for each stratum and then combined. In the case of a combined ratio estimator, the evaluation completes a single gross kWh savings realization rate calculation without first calculating separate gross realization rates by stratum.

The evaluation team used the separate ratio estimation technique to estimate verified gross impacts for the C&I and PS Retro-Commissioning program. The separate ratio estimation technique follows the steps outlined in the California Evaluation Framework,<sup>6</sup> which identifies best practices in program evaluation. The team matched these steps to the stratified random sampling method it used to create the sample for the component.

<sup>5</sup> A full discussion and comparison of separate versus combined ratio estimation can be found in *Sampling Techniques* (Cochran, 1977), pp. 164-169.

<sup>6</sup> Tec Market Works, *The California Evaluation Framework*, prepared for the California Energy Commission, June 2004, available at <http://www.calmac.org>.

## Appendix B. Impact Analysis Detailed Results

Table B-1 provides the ex ante and verified gas savings for each stratum.

**Table B-1. 2024 Gas Savings by Strata (All Projects)**

Strata	Sample Size	Ex Ante Gross Savings (Therms)	Verified Gross Realization Rate*	Verified Gross Savings (Therms)
Large	6	0	N/A	0
Large - Gas	3	149,317	99%	147,429
Medium	7	0	N/A	0
Medium - Gas	6	44,651	104%	46,267
Small	6	0	N/A	0
Small - Gas	7	151,441	98%	147,760
<b>Total or Weighted Average</b>	<b>35</b>	<b>345,409</b>	<b>99%</b>	<b>341,456</b>

\* The realization rate is the ratio of verified gross savings to ex ante gross savings, based on evaluation research findings.  
 Source: Evaluation team analysis.

Table B-2 shows the strata classification and ex ante and verified gas savings for all projects claimed by Peoples Gas in 2024.

**Table B-2.. 2024 Gas Savings by Project (PGL Projects Only)**

Project ID	Bundle #	Strata	Ex Ante Gross Savings (Therms)	Verified Gross RR*	Verified Gross Savings (Therms)	NTG†	Verified Net Savings (Therms)
22-0031	Bundle #3	Small - Gas	601	98%	586	0.98	575
23-0009	Bundle #1	Small - Gas	1,286	98%	1,255	0.98	1,230
23-0017	Bundle #1	Medium - Gas	8,203	104%	8,500	0.98	8,330
23-0026	Bundle #1	Small - Gas	1,744	98%	1,702	0.98	1,668
23-0037	Bundle #1	Large - Gas	32,317	99%	31,908	0.98	31,270
18-119	Bundle #2	Medium - Gas	14,695	104%	15,227	0.98	14,922
18-119	Bundle #3	Medium - Gas	60,301	104%	62,484	0.98	61,234
20-0037	Bundle #2	Small - Gas	5,958	98%	5,813	0.98	5,697
22-0010	Bundle #14	Small - Gas	11,560	98%	11,279	0.98	11,053
22-0010	Bundle #15	Small - Gas	4,060	98%	3,961	0.98	3,882
22-0010	Bundle #16	Medium - Gas	1,085	104%	1,124	0.98	1,102
22-0010	Bundle #17	Large - Gas	112,860	99%	111,433	0.98	109,204
22-0021	Bundle #3	Small - Gas	8,857	98%	8,642	0.98	8,469
22-0021	Bundle #4	Medium - Gas	63,386	104%	65,680	0.98	64,367
22-0038	Bundle #1	Small - Gas	1,482	98%	1,446	0.98	1,417
23-0008	Bundle #2	Small - Gas	39,765	98%	38,798	0.98	38,022
23-0008	Bundle #4	Large - Gas	4,140	99%	4,088	0.98	4,006
23-0008	Bundle #5	Medium - Gas	3,470	104%	3,596	0.98	3,524
23-0025	Bundle #1	Small - Gas	19,745	98%	19,265	0.98	18,880
23-0025	Bundle #2	Small - Gas	212	98%	207	0.98	203

Project ID	Bundle #	Strata	Ex Ante Gross Savings (Therms)	Verified Gross RR*	Verified Gross Savings (Therms)	NTG†	Verified Net Savings (Therms)
23-0025	Bundle #3	Small - Gas	1,104	98%	1,077	0.98	1,056
23-0040	Bundle #2	Small - Gas	1,595	98%	1,556	0.98	1,525
23-0048	Bundle #1	Small - Gas	4,165	98%	4,064	0.98	3,982
22-0065	Bundle #1	Small - Gas	915	98%	893	0.98	875
22-0010	Bundle #9	Small - Gas	5,369	98%	5,238	0.98	5,134
22-0014	Bundle #1	Medium - Gas	17,746	104%	18,388	0.98	18,021
<b>Total or Weighted Average</b>			<b>426,621</b>	<b>100%</b>	<b>428,211</b>	<b>0.98</b>	<b>419,647</b>

\* The realization rate is the ratio of verified gross savings to ex ante gross savings, based on evaluation research findings.

† NTG, Net to Gross is the deemed value available on the SAG website: <https://www.ilsag.info/evaluator-ntg-recommendations-for-2024/>.

Source: Evaluation team analysis.

Table B-3 shows the strata classification and ex ante and verified gas savings for all projects claimed by North Shore Gas in 2024.

**Table B-3. 2024 Gas Savings by Project (NSG Projects Only)**

Project ID	Bundle #	Strata	Ex Ante Gross Savings (Therms)	Verified Gross RR*	Verified Gross Savings (Therms)	NTG†	Verified Net Savings (Therms)
24-0019	Bundle #1	Small - Gas	256	98%	250	0.98	245
<b>Total or Weighted Average</b>			<b>256</b>	<b>98%</b>	<b>250</b>	<b>0.98</b>	<b>245</b>

\* The realization rate is the ratio of verified gross savings to ex ante gross savings, based on evaluation research findings.

† NTG, Net to Gross is the deemed value available on the SAG website: <https://www.ilsag.info/evaluator-ntg-recommendations-for-2024/>.

Source: Evaluation team analysis.

Table B-4 details the verified gas savings and realization rates for all sampled gas projects.

**Table B-4. 2024 Gas Savings by Project (All Sampled Projects)**

Project ID	Bundle #	Strata	Ex Ante Gross Savings (Therms)	Verified Gross Realization Rate*	Verified Gross Savings (Therms)
22-0010	Bundle #17	Large - Gas	112,860	99%	111,695
23-0008	Bundle #2	Small - Gas	39,765	122%	48,497
23-0037	Bundle #1	Large - Gas	32,317	93%	30,125
23-0001	Bundle #2	Small - Gas	29,173	100%	29,173
24-0021	Bundle #1	Small - Gas	27,374	100%	27,374
23-0001	Bundle #1	Small - Gas	25,423	53%	13,445
23-0025	Bundle #1	Small - Gas	19,745	93%	18,299
18-119	Bundle #2	Medium - Gas	14,695	97%	14,306
22-0039	Bundle #1	Medium - Gas	10,394	100%	10,394
22-0021	Bundle #3	Small - Gas	8,857	100%	8,857
23-0017	Bundle #1	Medium - Gas	8,203	119%	9,777
23-0031	Bundle #1	Medium - Gas	4,391	100%	4,411
23-0008	Bundle #4	Large - Gas	4,140	135%	5,609

Project ID	Bundle #	Strata	Ex Ante Gross Savings (Therms)	Verified Gross Realization Rate*	Verified Gross Savings (Therms)
23-0031	Bundle #2	Medium - Gas	3,498	100%	3,498
23-0008	Bundle #5	Medium - Gas	3,470	112%	3,881
23-0025	Bundle #3	Small - Gas	1,104	192%	2,115

Note: Participants can submit multiple bundles at different times during the year. Each project bundle submitted in CY2024 was counted as one project for impact evaluation sampling purposes.

\* The realization rate is the ratio of verified gross savings to ex ante gross savings, based on evaluation research findings.

Source: Evaluation team analysis.

## Appendix C. Appendix C. Program Specific Inputs for the Illinois TRC

Table C-1 and Table C-2 show the Total Resource Cost (TRC) cost-effectiveness analysis inputs available at the time of producing this impact evaluation report. Currently, additional required cost data (e.g., measure costs, program level incentive, and non-incentive costs) are not included in this table and will be provided to the evaluation team later. Guidehouse will include annual and lifetime water savings and greenhouse gas reductions in the end of year summary report.

**Table C-1. Verified Cost Effectiveness Inputs – PGL**

Program Category	DAC Project	Units	Quantity	Effective Useful Life	Early Replacement Flag	Verified Gross Annual Water Savings (Gallons)	Ex Ante Gross Savings (Therms)	Verified Gross Savings (Therms)	Verified Net Savings (Therms)
Private	FALSE	Project	24	8.6	NO	N/A	388,346	390,490	382,680
Public	FALSE	Project	2	8.6	NO	N/A	38,275	37,722	36,967
<b>Total or Weighted Average</b>				<b>8.6</b>		<b>N/A</b>	<b>426,621</b>	<b>428,211</b>	<b>419,647</b>

Source: Evaluation team analysis.

**Table C-2. Verified Cost Effectiveness Inputs – NSG**

Program Category	DAC Project	Units	Quantity	Effective Useful Life	Early Replacement Flag	Verified Gross Annual Water Savings (Gallons)	Ex Ante Gross Savings (Therms)	Verified Gross Savings (Therms)	Verified Net Savings (Therms)
Private	FALSE	Project	1	8.6	NO	N/A	256	250	245
<b>Total or Weighted Average</b>				<b>8.6</b>		<b>N/A</b>	<b>256</b>	<b>250</b>	<b>245</b>

Source: Evaluation team analysis.