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|  | Multi-Family Market Rate Program Impact Evaluation Report  Energy Efficiency Plan: Program Year 2023  (1/1/2023-12/31/2023) | | | | |
|  | Prepared for:  Peoples Gas and North Shore Gas  DRAFT  March 29, 2024 | | | | |
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Table of Contents

[1. Introduction A-1](#_Toc162562586)

[2. Program Description A-1](#_Toc162562587)

[3. Program Savings Detail A-4](#_Toc162562588)

[4. Program Savings by Measure A-5](#_Toc162562589)

[5. Impact Analysis Findings and Recommendations A-7](#_Toc162562590)

[5.1 Impact Parameter Estimates A-7](#_Toc162562591)

[5.2 Findings and Recommendations A-8](#_Toc162562592)

[Appendix A. Impact Analysis Methodology A-10](#_Toc162562593)

[Appendix B. Program Specific Inputs for the Illinois TRC B-1](#_Toc162562594)

List of Tables, Figures, and Equations

[Table 2‑1. 2023 Volumetric Summary for PGL A-1](#_Toc162562595)

[Table 2‑2. 2023 Installed Measure Quantities for PGL A-2](#_Toc162562596)

[Table 2‑3. 2023 Volumetric Summary for NSG A-3](#_Toc162562597)

[Table 2‑4. 2023 Installed Measure Quantities for NSG A-3](#_Toc162562598)

[Table 3‑1. 2023 Annual Energy Savings Summary for PGL A-4](#_Toc162562599)

[Table 3‑2. 2023 Annual Energy Savings Summary for NSG A-4](#_Toc162562600)

[Table 4‑1. 2023 Annual Energy Savings by Measure for PGL A-5](#_Toc162562601)

[Table 4‑2. 2023 Annual Energy Savings by Measure for NSG A-6](#_Toc162562602)

[Table 5‑1. Verified Gross Savings Parameters A-7](#_Toc162562603)

[Table A‑1. Custom Project Summary – PGL A-1](#_Toc162472605)

[Table B‑1: Verified Cost Effectiveness Inputs – PGL B-1](#_Toc162472606)

[Table B‑2. Verified Cost Effectiveness Inputs – NSG B-3](#_Toc162472607)

# Introduction

This report presents the results of the impact evaluation of the Peoples Gas (PGL) and North Shore Gas (NSG) 2023 Multi-Family Market Rate programs. It presents a summary of 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 2023 covers January 1, 2023 through December 31, 2023.

# Program Description

The Multi-Family Program is designed to provide a “one-stop-shop” to multi-family property owners and managers of buildings with three or more units to achieve comprehensive improvements in energy efficiency that previously would have required accessing multiple programs. The Multi-Family Program delivery approach consists of four paths, described below.

1. The **Direct Install (DI)** and **Energy Assessment “Jumpstart”** path of the program provides free energy efficiency products in residential dwelling units (IU) and common areas (CA). The energy assessment identifies additional comprehensive efficiency upgrades that allow participants to implement deeper retrofit measures through other delivery paths.
2. The **Partner Trade Ally (PTA)** path also provides standardized incentives for energy efficient equipment based on the size and efficiency of the equipment installed or on a per unit basis while providing higher incentives to a network of trade allies (TAs) who are selected, screened, and registered with the Multi-Family Program. These PTAs in turn offer larger rebates than the prescriptive rebates to their customers to install energy-efficient products.
3. The **Prescriptive Rebate** path provides standardized incentives for energy efficient equipment based on the size and efficiency of the equipment installed or on a per unit basis.
4. The program’s **Custom** path provides technical services and custom rebates for non-standard building improvement upgrades. The program also provides incentive opportunities for energy efficient new construction projects in multi-family buildings.

The PGL program had 147 participants in 2023 and completed 236 projects as shown in the following table.

Table 2‑1. 2023 Volumetric Summary for PGL

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Participation | Direct Install | Partner Trade Ally | Prescriptive | Custom | Total |
| Participants \* | 9 | 126 | 11 | 1 | 147 |
| Installed Projects † | 78 | 146 | 11 | 1 | 236 |
| Measure Types Installed | 8 | 20 | 8 | 1 | 37 |

\* Participants are defined as unique Gas Account Numbers.

† Installed Projects are defined as unique Work Order IDs.

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

Table 2‑2 summarizes the installed measure quantities that are the basis for verified energy savings. The table distinguishes between projects installed in disadvantaged communities (DAC) zip codes and those not in disadvantaged communities.

Table 2‑2. 2023 Installed Measure Quantities for PGL

| Program Category | Program Path | Measure | Quantity Unit | Installed Quantity |
| --- | --- | --- | --- | --- |
| **Multi-Family** | Direct Install | Assessment/No Savings | Unit | 329 |
| Shower Timer (IU) | Unit | 268 |
| Showerhead (IU) | Unit | 230 |
| Faucet Aerator – Bathroom (IU) | Unit | 200 |
| Faucet Aerator – Kitchen (IU) | Unit | 119 |
| Programmable Thermostat | Unit | 61 |
| Advanced Thermostat | Unit | 12 |
| Assessment/No Savings - DAC | Unit | 11 |
| Faucet Aerator - Bathroom (IU) - DAC | Unit | 11 |
| Shower Timer (IU) - DAC | Unit | 11 |
| Showerhead (IU) - DAC | Unit | 11 |
| Faucet Aerator - Kitchen (IU) - DAC | Unit | 6 |
| Partner Trade Ally | Boiler Tune Up | MBH | 183,784 |
| Pipe Insulation | Ln Ft | 19,764 |
| Assessment/No Savings | Unit | 7,791 |
| Draft Controls | MBH | 4,408 |
| Steam Trap | Unit | 2,365 |
| Boiler Reset Controls | MBH | 900 |
| Advanced Thermostat | Unit | 577 |
| On Demand DHW Controls | Unit | 492 |
| Steam Pipe Averaging Controls | Unit | 110 |
| Central Water Heater | Unit | 55 |
| High Efficiency Boiler | Unit | 21 |
| Boiler Tune Up - DAC | MBH | 19,212 |
| Assessment/No Savings - DAC | Unit | 1,750 |
| Steam Trap - DAC | Unit | 502 |
| On Demand DHW Controls - DAC | Unit | 22 |
| Prescriptive | Boiler Tune Up | MBH | 11,475 |
| Central Water Heater | Unit | 610 |
| Steam Pipe Averaging Controls | Unit | 460 |
| Advanced Thermostat | Unit | 427 |
| Pipe Insulation | Ln Ft | 182 |
| On Demand DHW Controls | Unit | 10 |
| High Efficiency Boiler | Unit | 5 |
| High Efficiency Boiler - DAC | Unit | 2 |
| Custom | Custom | Unit | 2 |

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

The NSG program had 22 participants in 2023 and completed 22 projects as shown in the following table.

Table 2‑3. 2023 Volumetric Summary for NSG

|  |  |  |
| --- | --- | --- |
| Participation | Partner Trade Ally | Total |
| Participants \* | 22 | 22 |
| Installed Projects † | 22 | 22 |
| Measure Types Installed | 6 | 6 |

\* Participants are defined as unique Gas Account Numbers.

† Installed Projects are defined as unique Work Order IDs.

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

Table 2‑4 summarizes the installed measure quantities that are the basis for verified energy savings.

Table 2‑4. 2023 Installed Measure Quantities for NSG

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Program Category | Program Path | Measure | Quantity Unit | Installed Quantity |
| **Multi-Family** | Partner Trade Ally | Boiler Tune Up | MBH | 100,760 |
| Pipe Insulation | Ln Ft | 3,054 |
| On Demand DHW Controls | MBH | 70 |
| Steam Pipe Averaging Controls | MBH | 9 |

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

# Program Savings Detail

Table 3‑1 summarizes the energy savings the PGL Multi-family Market Rate Program achieved by path in 2023.

Table 3‑1. 2023 Annual Energy Savings Summary for PGL

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Program Category | Program Path | Ex Ante Gross Savings (Therms) | Verified Gross RR\* | Verified Gross Savings (Therms) | NTG† | Verified Net Savings (Therms) |
| **Multi-Family** | Direct Install | 1,690 | 100% | 1,690 | Varies | 1,632 |
| Direct Install - DAC | 39 | 99% | 39 | Varies | 39 |
| Partner Trade Ally | 745,154 | 100% | 743,996 | 0.87 | 647,277 |
| Partner Trade Ally - DAC | 101,211 | 100% | 101,211 | 1.00 | 101,211 |
| Prescriptive | 87,366 | 100% | 87,409 | 0.87 | 76,046 |
| Prescriptive - DAC | 6,644 | 100% | 6,644 | 1.00 | 6,644 |
| Custom | 3,014 | 89% | 2,694 | 0.87 | 2,343 |
| **Total** | | **945,118** | **100%** | **943,683** | **0.89** | **835,192** |

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

† A deemed value. Available on the SAG web site: <https://www.ilsag.info/evaluator-ntg-recommendations-for-2023/>. Disadvantaged communities (DAC) designated sites based on zip codes used a NTG of 1.0, but direct install water efficient measures with deemed NTG of 1.01 used the value 1.01.

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

Table 3‑2 summarizes the energy savings the NSG Multi-family Market Rate Program achieved by path in 2023.

Table 3‑2. 2023 Annual Energy Savings Summary for NSG

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Program Category | Program Path | Ex Ante Gross Savings (Therms) | Verified Gross RR\* | Verified Gross Savings (Therms) | NTG† | Verified Net Savings (Therms) |
| **Multi-Family** | Partner Trade Ally | 63,321 | 100% | 63,292 | 0.87 | 55,064 |
| **Total** | | **63,321** | **100%** | **63,292** | **0.87** | **55,064** |

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

† A deemed value. Available on the SAG web site: <https://www.ilsag.info/evaluator-ntg-recommendations-for-2023/>.

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

# Program Savings by Measure

The PGL program includes 26 measures as shown in the following table. The Steam Trap and Pipe Insulation measures contributed the most savings.

Table 4‑1. 2023 Annual Energy Savings by Measure for PGL

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Program Category | Program Path | Savings Category | Ex Ante Gross Savings (Therms) | Verified Gross RR\* | Verified Gross Savings (Therms) | NTG† | Verified Net Savings (Therms) |
| **Multi-Family** | Direct Install | Showerhead (IU) | 556 | 100% | 556 | 1.01 | 562 |
| Programmable Thermostat | 405 | 100% | 405 | 0.96 | 389 |
| Advanced Thermostat | 400 | 100% | 400 | 0.90 | 360 |
| Shower Timer (IU) | 212 | 100% | 212 | 0.96 | 204 |
| Faucet Aerator - Bathroom (IU) | 66 | 100% | 66 | 1.01 | 67 |
| Faucet Aerator - Kitchen (IU) | 51 | 100% | 51 | 1.01 | 51 |
| Showerhead (IU) - DAC | 25 | 100% | 25 | 1.01 | 25 |
| Shower Timer (IU) - DAC | 8 | 100% | 8 | 1.00 | 8 |
| Faucet Aerator - Bathroom (IU) - DAC | 3 | 100% | 3 | 1.01 | 3 |
| Faucet Aerator - Kitchen (IU) - DAC | 3 | 100% | 3 | 1.01 | 3 |
|  | ***Direct Install Subtotal*** | ***1,729*** | ***100%*** | ***1,729*** |  | ***1,671*** |
| Partner Trade Ally | Steam Trap | 453,341 | 100% | 453,341 | 0.87 | 394,407 |
| Pipe Insulation | 108,023 | 100% | 108,023 | 0.87 | 93,980 |
| Boiler Tune Up | 86,148 | 100% | 86,148 | 0.87 | 74,949 |
| Advanced Thermostat | 34,744 | 97% | 33,586 | 0.87 | 29,220 |
| On Demand DHW Controls | 30,848 | 100% | 30,848 | 0.87 | 26,838 |
| Steam Pipe Averaging Controls | 6,720 | 100% | 6,720 | 0.87 | 5,846 |
| Draft Controls | 732 | 100% | 732 | 0.87 | 637 |
| Boiler Reset Controls | 1,196 | 100% | 1,196 | 0.87 | 1,040 |
| Central Water Heater | 522 | 100% | 522 | 0.87 | 454 |
| High Efficiency Boiler | 22,878 | 100% | 22,879 | 0.87 | 19,904 |
| Steam Trap - DAC | 90,826 | 100% | 90,826 | 1.00 | 90,826 |
| Boiler Tune Up - DAC | 9,006 | 100% | 9,006 | 1.00 | 9,006 |
| On Demand DHW Controls - DAC | 1,379 | 100% | 1,379 | 1.00 | 1,379 |
|  | ***Partner Trade Ally Subtotal*** | ***846,365*** | ***100%*** | ***845,207*** |  | ***748,488*** |
| Prescriptive | Advanced Thermostat | 28,452 | 100% | 28,452 | 0.87 | 24,753 |
| Steam Pipe Averaging Controls | 28,100 | 100% | 28,100 | 0.87 | 24,447 |
| Pipe Insulation | 10,449 | 100% | 10,448 | 0.87 | 9,090 |
| High Efficiency Boiler | 8,568 | 101% | 8,611 | 0.87 | 7,491 |
| Central Water Heater | 5,792 | 100% | 5,792 | 0.87 | 5,039 |
| Boiler Tune Up | 5,379 | 100% | 5,379 | 0.87 | 4,680 |
| On Demand DHW Controls | 627 | 100% | 627 | 0.87 | 545 |
| High Efficiency Boiler - DAC | 6,644 | 100% | 6,644 | 1.00 | 6,644 |
|  | ***Prescriptive Subtotal*** | ***94,010*** | ***100%*** | ***94,053*** |  | ***82,690*** |
| Custom | Custom | 3,014 | 89% | 2,694 | 0.87 | 2,343 |
| **Total** | | | **945,118** | **100%** | **943,683** |  | **835,192** |

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

† A deemed value. Available on the SAG web site: <https://www.ilsag.info/evaluator-ntg-recommendations-for-2023/>. Disadvantaged communities (DAC) designated sites based on zip codes used a NTG of 1.0, but direct install water efficient measures with deemed NTG of 1.01 used the value 1.01.

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

The NSG program includes 4 measures as shown in the following table. The Boiler Tune Up and Pipe Insulation measures contributed the most savings.

Table 4‑2. 2023 Annual Energy Savings by Measure for NSG

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Program Category | Program Path | Savings Category | Ex Ante Gross Savings (Therms) | Verified Gross RR\* | Verified Gross Savings (Therms) | NTG† | Verified Net Savings (Therms) |
| **Multi-Family** | Partner Trade Ally | Boiler Tune Up | 47,231 | 100% | 47,231 | 0.87 | 41,091 |
| Pipe Insulation | 11,122 | 100% | 11,122 | 0.87 | 9,676 |
| On Demand DHW Controls | 4,389 | 100% | 4,389 | 0.87 | 3,818 |
| Steam Pipe Averaging Controls | 578 | 95% | 550 | 0.87 | 478 |
| **Total** | | | **63,321** | **100%** | **63,292** | **0.87** | **55,064** |

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

† A deemed value. Available on the SAG web site: <https://www.ilsag.info/evaluator-ntg-recommendations-for-2023/>.

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

# Impact Analysis Findings and Recommendations

## Impact Parameter Estimates

Table 5‑1 shows the unit Therm savings and realization rate findings by measure from our review. The realization rate is the ratio of the verified savings to the ex ante savings. Following the table, we provide findings and recommendations, including discussion of all measures with realization rates above or below 100 percent. Appendix 1 provides a description of the impact analysis methodology.

Table 5‑1. Verified Gross Savings Parameters

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Measure | Unit Basis | Ex Ante Gross (therms/unit) | Verified Gross (therms/unit) | Realization Rate | Data Source(s) |
| Advanced Thermostat | Unit | Varies | Varies | 97% | Illinois TRM, v11.0†, Section 5.3.16 and PTD\* |
| Boiler Reset Controls |  | 1.33 | 1.33 | 100% | Illinois TRM, v11.0†, Section 4.4.4 and PTD\* |
| Boiler Tune Up | MBH | 0.47 | 0.47 | 100% | Illinois TRM, v11.0†, Section 4.4.2 and PTD\* |
| Central Water Heater | Unit | 9.49 | 9.49 | 100% | Illinois TRM, v11.0†, Section 4.3.7 and PTD\* |
| Custom | Unit | Varies | Varies | 89% | Project File Review, Monthly Billing Data‡ |
| Draft Controls | MBH | 0.17 | 0.17 | 100% | Illinois TRM, v11.0†, Section 4.4.21 and PTD\* |
| Faucet Aerator - Bathroom (IU) | Unit | 1.69 | 1.69 | 100% | Illinois TRM, v11.0†, Section 5.4.4 and PTD\* |
| Faucet Aerator - Kitchen (IU) | Unit | 2.82 | 2.82 | 100% | Illinois TRM, v11.0†, Section 5.4.4 and PTD\* |
| High Efficiency Boiler | Unit | Varies | Varies | 100% | Illinois TRM, v11.0†, Section 4.4.10 and PTD\* |
| On Demand DHW Controls | Unit | 62.70 | 62.70 | 100% | Illinois TRM, v11.0†, Section 4.3.8 and PTD\* |
| Pipe Insulation | Ln Ft | Varies | Varies | 100% | Illinois TRM, v11.0†, Section 4.4.14 and PTD\* |
| Programmable Thermostat | Unit | 40.50 | 40.50 | 100% | Illinois TRM, v11.0†, Section 5.3.11 and PTD\* |
| Shower Timer (IU) | Unit | 3.79 | 3.79 | 100% | Illinois TRM, v11.0†, Section 5.4.9 and PTD\* |
| Showerhead (IU) | Unit | 12.36 | 12.36 | 100% | Illinois TRM, v11.0†, Section 5.4.5 and PTD\* |
| Steam Pipe Averaging Controls | Unit | Varies | 61.09 | 100% | Illinois TRM, v11.0†, Section 4.4.36 and PTD\* |
| Steam Trap | Unit | Varies | Varies | 100% | Illinois TRM, v11.0†, Section 4.4.16 and PTD\* |

\* Program Tracking Data (PTD) provided by Peoples Gas and North Shore Gas; extract dated January 30, 2024.

† State of Illinois Technical Reference Manual version 11.0 from <http://www.ilsag.info/technical-reference-manual.html>.

‡ Project files and monthly billing data provided by Peoples Gas and North Shore Gas.

## Findings and Recommendations

The evaluation team developed several findings and recommendations based on the 2023 evaluation. The findings and recommendations are organized by path type in the following sections. The overall impact of these findings on the program is very small, as the program achieved a 100% realization rate.

### Direct Install

The realization rate for the Direct Install path was 100%. The finding included has no impact on gross savings, but instead will aid PGL-NSG in tracking net therms.

**Finding 1.** Theex ante calculations used an Net-to-Gross (NTG) ratio of 1.01 to calculate net therms savings for the shower timer measure. The NTG ratio of 1.01 is used for faucet aerators and showerheads. The evaluation team used an NTG ratio of 0.96 for all direct install measures, including shower timers, except aerators and showerheads. This is applicable to People’s Gas only.

**Recommendation 1.** Review the NTG ratio used in the net savings calculation and ensure that it matches with the 2023 Illinois Energy Efficiency Stakeholder Advisory Group (ILSAG) NTG ratios.

### Partner Trade Ally

**Finding 2.** For Common Areas (CA) 1-Pipe Steam Averaging Controls measure, the ex ante savings were calculated using a boiler efficiency of 61.6%, consistent with In-Unit existing Boilers. The evaluation team updated the efficiency to 64.8%, consistent with multifamily low pressure boilers. Increasing the efficiency led to a realization rate of 95% for this measure. This is applicable for North Shore Gas only.

**Recommendation 2.** Use appropriate boiler efficiency for the Multi-family program consistent with the Illinois Statewide Technical Reference Manual v11.0 (IL-TRM)[[1]](#footnote-1) (Section 4.4.36).

**Finding 3.** For In-Unit (IU) Smart Thermostat measure, ex ante used Percentage of heating savings assumed to be Natural Gas (%FossilHeat) as 97%. This value is used for programs where the type of space heating is unknown. The evaluation team used 100% as Percentage of heating savings assumed to be Natural Gas (%FossilHeat) consistent with the program utility. This is applicable to People’s Gas only.

**Recommendation 3.** Ensure that the %FossilHeat used is 100% for Natural Gas programs consistent with the IL-TRM (Section 5.3.11).

### Prescriptive

The realization rate for the Prescriptive path was 100%.

### Custom

**Finding 4.** The ex ante calculations referred to the Industrial Air Curation measure (section 4.4.33) of the IL-TRM for algorithms and inputs. The ex ante savings were based on a balance point temperature of 55°F, and an average outdoor temperature during heating season for Chicago (Toh) of 34°F. Based on the assumption of 55°F Balance Point temperature, the ex ante calculation used 192 heating days per year (total days in year above balance point temperature). Finally, the post retrofit garage door closing-speed was 23 in/s in the ex ante calculation.

The evaluation team used historical gas consumption of the building to determine the actual balance point of 63.7°F. Based on the calculated balance point temperature, the evaluation team determined Toh to be 39.13°F and heating days per year to be 241.32 days. The evaluation team also used 20in/s as the post retrofit garage door closing-speed, consistent with the technical specification sheet. These updates led to a realization rate of 89% for the custom path. This is applicable to People’s Gas only.

**Recommendation 4.** Whenever possible, leverage historical data to determine actual building balance points, and technical specifications for algorithm input parameters for custom projects.

##### Impact Analysis Methodology

The evaluation team used the same impact methodology for each component. Verified gross savings were determined for each program measure by:

* Reviewing the savings algorithm inputs in the measure workbook for agreement with the IL-TRM v11.0 and IL-TRM Errata, where applicable.
* Validating the savings algorithm was applied correctly.
* Cross-checking per-unit savings values in the program tracking data with the verified values in the measure workbook or in Guidehouse’s calculations if the workbook did not agree with the IL-TRM v11.0.
* Multiplying the verified per-unit savings value by the quantity reported in the tracking data. The team calculated verified net savings by multiplying the verified gross savings estimates by a NTG ratio. In Program Year 2023, NTG estimates used to calculate the net verified savings were based on past evaluation research and defined by a consensus process through the Illinois SAG.
* For Disadvantaged Areas (DAC) postal codes, a NTG ratio of 1.0 is used.
* Guidehouse sourced methodologies and assumptions from the Illinois IL-TRM v11.0 and the final 2023 tracking data.

For the custom projects, an in-depth application review was performed by a Guidehouse engineer to assess the engineering methods, parameters and assumptions used to generate all ex ante impact estimates. The evaluator reviewed project documentation in application forms and supporting documentation from the applicant. Table A-1 provides a summary of M&V results for the custom projects reviewed by Guidehouse.

Table A‑1. Custom Project Summary – PGL

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Work Order IDs | Measure Description | Ex Ante Gross Savings (therms) | Verified Gross RR\* | Verified Gross Savings (therms) | Summary of Adjustment |
| WO-4655068 | Custom – Garage Door | 3,014 | 89% | 2,694 | The balance point temperature is calculated using actual historical Therm consumption data. Based on this temperature, average outdoor temperature and number of heating days is selected. The actual door closing speed is considered as per specification sheet. |

Source: Peoples Gas tracking data and evaluation team analysis

##### Program Specific Inputs for the Illinois TRC

Table B‑1 and Table B‑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 B‑1: Verified Cost Effectiveness Inputs – PGL

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Program Category | Program Path | Savings Category | Units | Quantity | Effective Useful Life | Ex Ante Gross Savings (Therms) | Verified Gross Savings (Therms) | Verified Net Savings (Therms) |
| **Multi-Family** | Direct Install | Showerhead (IU) | Unit | 230 | 10 | 556 | 556 | 562 |
| Programmable Thermostat | Unit | 61 | 16 | 405 | 405 | 389 |
| Advanced Thermostat | Unit | 12 | 11 | 400 | 400 | 360 |
| Shower Timer (IU) | Unit | 268 | 2 | 212 | 212 | 204 |
| Faucet Aerator - Bathroom (IU) | Unit | 200 | 10 | 66 | 66 | 67 |
| Faucet Aerator - Kitchen (IU) | Unit | 119 | 10 | 51 | 51 | 51 |
| Showerhead (IU) - DAC | Unit | 11 | 10 | 25 | 25 | 25 |
| Shower Timer (IU) - DAC | Unit | 11 | 2 | 8 | 8 | 8 |
| Faucet Aerator - Bathroom (IU) - DAC | Unit | 11 | 10 | 3 | 3 | 3 |
| Faucet Aerator - Kitchen (IU) - DAC | Unit | 6 | 10 | 3 | 3 | 3 |
| Partner Trade Ally | Steam Trap | Unit | 2,365 | 6 | 453,341 | 453,341 | 394,407 |
| Pipe Insulation | Ln Ft | 19,764 | 15 | 108,023 | 108,023 | 93,980 |
| Boiler Tune Up | MBH | 183,784 | 3 | 86,148 | 86,148 | 74,949 |
| Advanced Thermostat | Unit | 577 | 11 | 34,744 | 33,586 | 29,220 |
| On Demand DHW Controls | Unit | 492 | 15 | 30,848 | 30,848 | 26,838 |
| High Efficiency Boiler | Unit | 21 | 20 | 22,878 | 22,879 | 19,904 |
| Steam Pipe Averaging Controls | Unit | 110 | 20 | 6,720 | 6,720 | 5,846 |
| Draft Controls | MBH | 4,408 | 16 | 732 | 732 | 732 |
| Boiler Reset Controls | MBH | 900 | 15 | 1,196 | 1,196 | 1,040 |
| Central Water Heater | Unit | 55 | 25 | 522 | 522 | 454 |
| Steam Trap - DAC | Unit | 502 | 6 | 90,826 | 90,826 | 90,826 |
| Boiler Tune Up - DAC | MBH | 19,212 | 3 | 9,006 | 9,006 | 9,006 |
| On Demand DHW Controls - DAC | Unit | 22 | 15 | 1,379 | 1,379 | 1,379 |
| Prescriptive | Advanced Thermostat | Unit | 427 | 11 | 28,452 | 28,452 | 24,753 |
| Steam Pipe Averaging Controls | Unit | 460 | 20 | 28,100 | 28,100 | 24,447 |
| Pipe Insulation | Ln Ft | 182 | 15 | 10,449 | 10,448 | 9,090 |
| High Efficiency Boiler | Unit | 5 | 25 | 8,568 | 8,611 | 7,491 |
| Central Water Heater | Unit | 610 | 15 | 5,792 | 5,792 | 5,039 |
| Boiler Tune Up | MBH | 11,475 | 3 | 5,379 | 5,379 | 4,680 |
| On Demand DHW Controls | Unit | 10 | 15 | 627 | 627 | 545 |
| High Efficiency Boiler - DAC | Unit | 2 | 25 | 6,644 | 6,644 | 6,644 |
|  | Custom | Custom | Unit | 2 | 20 | 3,014 | 2,694 | 2,343 |
| **Total or Weighted Average** | | |  | **256,195** | **8.76** | **945,118** | **943,683** | **835,192** |

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

Table B‑2. Verified Cost Effectiveness Inputs – NSG

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Program Category | Program Path | Savings Category | Units | Quantity | Effective Useful Life | Ex Ante Gross Savings (Therms) | Verified Gross Savings (Therms) | Verified Net Savings (Therms) |
| **Multi-Family** | Partner Trade Ally | Boiler Tune Up | MBH | 100,760 | 3 | 47,231 | 47,231 | 41,091 |
| Pipe Insulation | Ln Ft | 3,054 | 15 | 11,122 | 11,122 | 9,676 |
| On Demand DHW Controls | MBH | 70 | 15 | 4,389 | 4,389 | 3,818 |
| Steam Pipe Averaging Controls | MBH | 9 | 20 | 578 | 550 | 478 |
| **Total or Weighted Average** | | |  | **103,893** | **6.09** | **63,321** | **63,292** | **55,064** |

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

1. In this report, unless stated otherwise, IL-TRM refers to version 11.0 (v11.0) [↑](#footnote-ref-1)