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|  | Home Energy Jumpstart 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 22, 2024 | | | |
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# Introduction

This report presents the results of the impact evaluation of the Peoples Gas (PGL) and North Shore Gas (NSG) 2023 Home Energy Jumpstart program and presents a summary of the energy impacts for the total program, as well as 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 2023 HEJ program is an assessment and direct install program jointly implemented by ComEd, Nicor Gas, PGL, and NSG. This report focuses solely on the program’s natural gas savings. Electricity measure savings are included in a separate evaluation report delivered to ComEd.

The HEJ program seeks to secure energy savings through direct installation (DI) of low-cost efficiency measures, including water efficient showerheads and faucet aerators, pipe insulation, electricity-saving devices, and programmable thermostats at eligible single-family (SF) residences, including condominiums. The program also secures energy savings through installation of advanced (smart) thermostats, which requires a participant co-payment. In addition, the program performs an assessment of the major retrofit opportunities (e.g., furnace, boiler, air conditioning, insulation, and air sealing) and heightens homeowner awareness about other available efficiency programs offered by ComEd, PGL, and NSG. A Virtual Home Assessment (VA) option was added in 2020 and continued through 2023 to adapt to COVID-19 restrictions. The program measures also include a door sweep and an air handler filter replacement.

The PGL program had 976 participants in 2023 and completed 1,984 projects as shown in Table 2‑1.

Table ‑. 2023 HEJ Program Volumetric Summary for PGL

|  |  |  |  |
| --- | --- | --- | --- |
| Participation | Direct Install | Virtual Home Assessment | Total |
| Participants \* | 872 | 292 | 976 |
| Installed Projects † | 1,571 | 413 | 1,984 |

\* Participants are defined as Participants are defined as the number of distinct account numbers with realized gas savings.

† Installed Projects are defined as the number of distinct measure IDs with realized gas savings.

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.

Table ‑. 2023 HEJ Program Installed Measure Quantities for PGL

|  |  |  |  |
| --- | --- | --- | --- |
| Program Path | Measure | Quantity Unit | Installed  Quantity |
| Direct Install | Advanced Thermostat (DI) – Blended | Each | 1 |
| Advanced Thermostat (DI) – Manual | Each | 94 |
| Advanced Thermostat (DI) – Programmable | Each | 15 |
| Air Sealing – Door Sweep (DI) | Each | 166 |
| Bathroom Aerator SF (DI) | Each | 434 |
| Boiler Pipe Insulation | Linear Feet | 424 |
| DHW Pipe Insulation | Linear Feet | 1447 |
| Handheld Showerhead (DI) SF | Each | 268 |
| Kitchen Aerator SF (DI) | Each | 154 |
| Programmable Thermostat (DI) | Each | 133 |
| Re-Program Thermostat (DI) | Each | 26 |
| Shower Flow Reducer (DI) SF | Each | 16 |
| Showerhead (DI) SF | Each | 354 |
| Virtual Home Assessment | Air Handler Filter Replacement (VA) | Each | 246 |
| Air Sealing – Door Sweep (VA) | Each | 58 |
| Bathroom Aerator SF (VA) | Each | 82 |
| Handheld Showerhead (VA) SF | Each | 56 |
| Kitchen Aerator SF (VA) | Each | 8 |
| Shower Flow Reducer (VA) SF | Each | 12 |
| Showerhead (VA) SF | Each | 8 |

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

The NSG program had 269 participants in 2023 and completed 555 projects as shown in the following table.

Table ‑. 2023 HEJ Program Volumetric Summary for NSG

|  |  |  |  |
| --- | --- | --- | --- |
| Participation | Direct Install | Virtual Home Assessment | Total |
| Participants \* | 238 | 89 | 269 |
| Installed Projects † | 437 | 118 | 555 |

\* Participants are defined as Participants are defined as the number of distinct account numbers with realized gas savings.

† Installed Projects are defined as the number of distinct measure IDs with realized gas savings.

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 ‑. 2023 HEJ Program Installed Measure Quantities for NSG

|  |  |  |  |
| --- | --- | --- | --- |
| Program Path | Measure | Quantity Unit | Installed  Quantity |
| Direct Install | Advanced Thermostat (DI) - Manual | Each | 28 |
| Advanced Thermostat (DI) - Programmable | Each | 4 |
| Air Sealing - Door Sweep (DI) | Each | 65 |
| Bathroom Aerator SF (DI) | Each | 222 |
| Boiler Pipe Insulation | Linear Feet | 250 |
| DHW Pipe Insulation | Linear Feet | 540 |
| Handheld Showerhead (DI) SF | Each | 82 |
| Kitchen Aerator SF (DI) | Each | 19 |
| Programmable Thermostat (DI) | Each | 19 |
| Re-Program Thermostat (DI) | Each | 4 |
| Shower Flow Reducer (DI) SF | Each | 7 |
| Showerhead (DI) SF | Each | 93 |
| Virtual Home Assessment | Air Handler Filter Replacement (VA) | Each | 92 |
| Air Sealing - Door Sweep (VA) | Each | 8 |
| Bathroom Aerator SF (VA) | Each | 26 |
| Handheld Showerhead (VA) SF | Each | 9 |
| Kitchen Aerator SF (VA) | Each | 3 |
| Shower Flow Reducer (VA) SF | Each | 6 |
| Showerhead (VA) SF | Each | 8 |

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

# Program Savings Detail

Table 3‑1 summarizes the energy savings the PGL Home Energy Report Program achieved by each program path in 2023. Projects in disadvantaged communities (DAC) designated sites have a NTG of 1.0.

Table ‑. 2023 HEJ Program 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) |
| **Disadvantaged Communities** |  |  |  |  |  |  |
|  | Direct Install | 16,401 | 100% | 16,401 | 1.00 | 16,401 |
|  | Virtual Home Assessment | 1,334 | 100% | 1,334 | 1.00 | 1,334 |
| ***DAC Subtotal*** |  | ***17,735*** | ***100%*** | ***17,735*** | ***1.00*** | ***17,735*** |
| **Non-Disadvantaged Communities** |  |  |  |  |  |  |
|  | Direct Install | 13,278 | 100% | 13,278 | 0.96 | 11,954 |
|  | Virtual Home Assessment | 1,721 | 100% | 1,721 | 0.92 | 1,550 |
| ***Non-DAC Subtotal*** |  | ***14,999*** | ***100%*** | ***14,999*** | ***0.95*** | ***13,504*** |
| **Total or Weighted Average** | | **32,734** | **100%** | **32,734** | **0.98** | **31,239** |

\* 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/ntg_2023>. Projects in disadvantaged communities designated sites have a NTG of 1.0.

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

Table 3‑2 summarizes the energy savings the NSG Home Energy Jumpstart Program achieved by each program path in 2023.

Table ‑. 2023 HEJ Program 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) |
| **Disadvantaged Communities** |  |  |  |  |  |  |
|  | Direct Install | 861 | 100% | 861 | 1.00 | 861 |
|  | Virtual Home Assessment | 40 | 100% | 40 | 1.00 | 40 |
| ***DAC Subtotal*** |  | ***901*** | ***100%*** | ***901*** | ***1.00*** | ***901*** |
| **Non-Disadvantage Communities** |  |  |  |  |  |  |
|  | Direct Install | 6,392 | 100% | 6,392 | 0.90 | 5,778 |
|  | Virtual Home Assessment | 960 | 100% | 960 | 0.90 | 860 |
| ***Non-DAC Subtotal*** |  | ***7,353*** | ***100%*** | ***7,353*** | ***0.90*** | ***6,638*** |
| **Total or Weighted Average** | | **8,253** | **100%** | **8,253** | **0.91** | **7,538** |

Note: Totals may no sum due to rounding.

\* 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/ntg\_2023. Projects in disadvantaged communities designated sites have a NTG of 1.0.

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

# Program Savings by Measure

The PGL program includes 43 measures as shown in Table 4‑1, divided into installation type (DI or VHA) and DAC or non-DAC. The Advanced Thermostats and Programmable Thermostats contributed the most savings.

Table ‑. 2023 HEJ Program 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) |
| --- | --- | --- | --- | --- | --- | --- | --- |
| DAC | Direct Install | Advanced Thermostat (DI) - Blended | 85 | 100% | 85 | 1.00 | 85 |
|  | Advanced Thermostat (DI) - Manual | 4,387 | 100% | 4,387 | 1.00 | 4,387 |
|  | Advanced Thermostat (DI) - Programmable | 285 | 100% | 285 | 1.00 | 285 |
|  | Air Sealing - Door Sweep (DI) | 701 | 100% | 701 | 1.00 | 701 |
|  | Bathroom Aerator SF (DI) | 225 | 100% | 225 | 1.00 | 225 |
|  | Boiler Pipe Insulation | 53 | 100% | 53 | 1.00 | 53 |
|  | DHW Pipe Insulation | 1,305 | 100% | 1,305 | 1.00 | 1,305 |
|  | Handheld Showerhead (DI) SF | 433 | 100% | 433 | 1.00 | 433 |
|  | Kitchen Aerator SF (DI) | 974 | 100% | 974 | 1.00 | 974 |
|  | Programmable Thermostat (DI) | 6,136 | 100% | 6,136 | 1.00 | 6,136 |
|  | Re-Program Thermostat (DI) | 1,176 | 100% | 1,176 | 1.00 | 1,176 |
|  | Shower Flow Reducer (DI) SF | 31 | 100% | 31 | 1.00 | 31 |
|  | Showerhead (DI) SF | 609 | 100% | 609 | 1.00 | 609 |
| Virtual Home Assessment | Air Handler Filter Replacement (VA) | 940 | 100% | 940 | 1.00 | 940 |
|  | Air Sealing - Door Sweep (VA) | 127 | 100% | 127 | 1.00 | 127 |
|  | Bathroom Aerator SF (VA) | 19 | 100% | 19 | 1.00 | 19 |
|  | Boiler Pipe Insulation | 3 | 100% | 3 | 1.00 | 3 |
|  | DHW Pipe Insulation | 122 | 100% | 122 | 1.00 | 122 |
|  | Handheld Showerhead (VA) SF | 70 | 100% | 70 | 1.00 | 70 |
|  | Kitchen Aerator SF (VA) | 30 | 100% | 30 | 1.00 | 30 |
|  | Shower Flow Reducer (VA) SF | 7 | 100% | 7 | 1.00 | 7 |
|  | Showerhead (VA) SF | 14 | 100% | 14 | 1.00 | 14 |
| ***DAC subtotal*** |  |  | ***17,735*** | ***100%*** | ***17,735*** | ***1.00*** | ***17,735*** |
| Non-DAC | Direct Install | Advanced Thermostat (DI) - Manual | 5,228 | 100% | 5,228 | 0.90 | 4,705 |
|  |  | Advanced Thermostat (DI) - Programmable | 785 | 100% | 785 | 0.90 | 706 |
|  | Air Sealing - Door Sweep (DI) | 511 | 100% | 511 | 0.88 | 450 |
|  | Bathroom Aerator SF (DI) | 215 | 100% | 215 | 1.02 | 219 |
|  | Boiler Pipe Insulation | 116 | 100% | 116 | 0.88 | 102 |
|  | DHW Pipe Insulation | 1,134 | 100% | 1,134 | 0.88 | 998 |
|  | Handheld Showerhead (DI) SF | 383 | 100% | 383 | 1.02 | 391 |
|  | Kitchen Aerator SF (DI) | 441 | 100% | 441 | 1.02 | 450 |
|  | Programmable Thermostat (DI) | 3,170 | 100% | 3,170 | 0.88 | 2,789 |
|  | Re-Program Thermostat (DI) | 806 | 100% | 806 | 0.80 | 645 |
|  | Shower Flow Reducer (DI) SF | 19 | 100% | 19 | 1.02 | 19 |
|  | Showerhead (DI) SF | 470 | 100% | 470 | 1.02 | 480 |
| Virtual Home Assessment | Air Handler Filter Replacement (VA) | 1,011 | 100% | 1,011 | 0.88 | 890 |
|  | Air Sealing - Door Sweep (VA) | 110 | 100% | 110 | 0.88 | 97 |
|  | Bathroom Aerator SF (VA) | 48 | 100% | 48 | 1.02 | 49 |
|  | Boiler Pipe Insulation | 100 | 100% | 100 | 0.88 | 88 |
|  | DHW Pipe Insulation | 245 | 100% | 245 | 0.88 | 216 |
|  | Handheld Showerhead (VA) SF | 133 | 100% | 133 | 1.02 | 135 |
|  | Kitchen Aerator SF (VA) | 26 | 100% | 26 | 1.02 | 26 |
|  | Shower Flow Reducer (VA) SF | 37 | 100% | 37 | 1.02 | 38 |
|  | Showerhead (VA) SF | 11 | 100% | 11 | 1.02 | 11 |
| ***Non-DAC Subtotal*** | | ***14,999*** | ***100%*** | ***14,999*** | ***0.90*** | ***13,504*** |
| **Total or Weighted Average** | |  | **32,734** | **100%** | **32,734** | **0.95** | **31,239** |

Note: Totals may not sum due to rounding.

\* 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/ntg\_2023. Projects in disadvantaged communities designated sites have a NTG of 1.0.

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

The NSG program includes 34 measures as shown in the following table, divided by installation type (DI or VHA) and DAC or non-DAC. The Advanced Thermostats and DHW Pipe Insulation contributed the most savings.

Table ‑. 2023 HEJ Program 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) |
| --- | --- | --- | --- | --- | --- | --- | --- |
| DAC | Direct Install | Advanced Thermostat (DI) - Manual | 308 | 100% | 308 | 1.00 | 308 |
| Air Sealing - Door Sweep (DI) | 22 | 100% | 22 | 1.00 | 22 |
| Bathroom Aerator SF (DI) | 7 | 100% | 7 | 1.00 | 7 |
| Boiler Pipe Insulation | 9 | 100% | 9 | 1.00 | 9 |
| DHW Pipe Insulation | 24 | 100% | 24 | 1.00 | 24 |
| Handheld Showerhead (DI) SF | 33 | 100% | 33 | 1.00 | 33 |
| Kitchen Aerator SF (DI) | 71 | 100% | 71 | 1.00 | 71 |
| Programmable Thermostat (DI) | 372 | 100% | 372 | 1.00 | 372 |
| Showerhead (DI) SF | 15 | 100% | 15 | 1.00 | 15 |
| Virtual Home Assessment | Air Handler Filter Replacement (VA) | 24 | 100% | 24 | 1.00 | 24 |
| Bathroom Aerator SF (VA) | 2 | 100% | 2 | 1.00 | 2 |
| Handheld Showerhead (VA) SF | 7 | 100% | 7 | 1.00 | 7 |
| Kitchen Aerator SF (VA) | 8 | 100% | 8 | 1.00 | 8 |
| ***DAC subtotal*** |  |  | ***901*** | ***100%*** | ***901*** | ***1.00*** | ***901*** |
| Non-DAC | Direct Install | Advanced Thermostat (DI) - Manual | 2,563 | 100% | 2,563 | 0.90 | 2,306 |
|  | Advanced Thermostat (DI) - Programmable | 285 | 100% | 285 | 0.90 | 257 |
|  | Air Sealing - Door Sweep (DI) | 453 | 100% | 453 | 0.88 | 399 |
|  | Bathroom Aerator SF (DI) | 220 | 100% | 220 | 1.02 | 225 |
|  | Boiler Pipe Insulation | 118 | 100% | 118 | 0.88 | 104 |
|  | DHW Pipe Insulation | 968 | 100% | 968 | 0.88 | 852 |
|  | Handheld Showerhead (DI) SF | 210 | 100% | 210 | 1.02 | 214 |
|  | Kitchen Aerator SF (DI) | 105 | 100% | 105 | 1.02 | 107 |
|  | Programmable Thermostat (DI) | 933 | 100% | 933 | 0.88 | 821 |
|  | Re-Program Thermostat (DI) | 249 | 100% | 249 | 0.80 | 199 |
|  | Shower Flow Reducer (DI) SF | 19 | 100% | 19 | 1.02 | 19 |
|  | Showerhead (DI) SF | 269 | 100% | 269 | 1.02 | 275 |
| Virtual Home Assessment | Air Handler Filter Replacement (VA) | 705 | 100% | 705 | 0.88 | 621 |
| Air Sealing - Door Sweep (VA) | 33 | 100% | 33 | 0.88 | 29 |
| Bathroom Aerator SF (VA) | 19 | 100% | 19 | 1.02 | 19 |
| Boiler Pipe Insulation | 40 | 100% | 40 | 0.88 | 35 |
| DHW Pipe Insulation | 75 | 100% | 75 | 0.88 | 66 |
| Handheld Showerhead (VA) SF | 26 | 100% | 26 | 1.02 | 26 |
| Kitchen Aerator SF (VA) | 15 | 100% | 15 | 1.02 | 15 |
| Shower Flow Reducer (VA) SF | 22 | 100% | 22 | 1.02 | 23 |
| Showerhead (VA) SF | 25 | 100% | 25 | 1.02 | 26 |
| ***Non-DAC subtotal*** | |  | ***7,353*** | ***100%*** | ***7,353*** | ***0.90*** | ***6,638*** |
| **Total or Weighted Average** | |  | **8,253** | **100%** | **8,253** | **0.91** | **7,538** |

Note: Totals may not sum due to rounding.

\* 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/ntg\_2023. Projects in disadvantaged communities designated sites have a NTG of 1.0.

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 Guidehouse’s review. The realization rate is the ratio of the verified savings to the ex ante savings. Following the table are 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 ‑. 2023 HEJ Program Verified Gross Savings Parameters

| **Measure** | **Unit Basis** | **Ex Ante Gross (therms/unit)** | **Verified Gross (therms/unit)** | **RR** | **Data Source(s)** |
| --- | --- | --- | --- | --- | --- |
| Advanced Thermostat (DI) - Blended | Each | 85.43 | 85.43 | 100% | Illinois  TRM, v11.0†, Section 5.3.16, MMDB, PTD, and IC Calulcator |
| Advanced Thermostat (DI) - Manual | Each | 85.05 102.51 201.68 | 85.05 102.51 201.69 | 100% | Illinois  TRM, v11.0†, Section 5.3.16, MMDB, PTD, and IC Calulcator |
| Advanced Thermostat (DI) - Programmable | Each | 71.36 | 71.36 | 100% | Illinois  TRM, v11.0†, Section 5.3.16, MMDB, PTD, and IC Calulcator |
| Air Handler Filter Replacement (VA) | Each | 7.84 15.42 | 7.84 15.43 | 100% | Illinois  TRM, v11.0†, Section 5.3.21, IC Calculator |
| Air Sealing - Door Sweep (DI) | Each | 7.30 | 7.30 | 100% | Illinois  TRM, v11.0†, Section 5.6.1, IC Calculator |
| Air Sealing - Door Sweep (VA) | Each | 4.09 | 4.09 | 100% | Illinois  TRM, v11.0†, Section 5.6.1, IC Calculator |
| Bathroom Aerator SF (DI) | Each | Varies | Varies | 100% | Illinois  TRM, v11.0†, Section 5.4.4, MMDB, PTD, and IC Calculator |
| Bathroom Aerator SF (VA) | Each | 0.32 0.82 | 0.32 0.83 | 100% | Illinois  TRM, v11.0†, Section 5.4.2, MMDB, PTD, and IC Calculator |
| Boiler Pipe Insulation (DI) | Linear Feet | 0.71 | 0.71 | 100% | Illinois  TRM, v11.0†, Section 5.3.2, MMDB, PTD, and IC Calculator |
| Boiler Pipe Insulation (VA) | Linear Feet | 0.56 | 0.56 | 100% | Illinois  TRM, v11.0†, Section 5.3.2, MMDB, PTD, and IC Calculator |
| DHW Pipe Insulation | Linear Feet | Varies | Varies | 100% | Illinois  TRM, v11.0†, Section 5.4.1, MMDB, PTD, and IC Calculator |
| Handheld Showerhead (DI) SF | Each | Varies | Varies | 100% | Illinois  TRM, v11.0†, Section 5.4.5, MMDB, PTD, and IC Calculator |
| Handheld Showerhead (VA) SF | Each | 3.71 | 3.71 | 100% | Illinois  TRM, v11.0†, Section 5.4.5, MMDB, PTD, and IC Calculator |
| Kitchen Aerator SF (DI) | Each | Varies | Varies | 100% | Illinois  TRM, v11.0†, Section 5.4.4, MMDB, PTD, and IC Calculator |
| Kitchen Aerator SF (VA) | Each | 7.54 | 7.54 | 100% | Illinois  TRM, v11.0†, Section 5.4.4, MMDB, PTD, and IC Calculator |
| Programmable Thermostat (DI) - Boiler | Each | 62.31 | 62.31 | 100% | Illinois  TRM, v11.0†, Section 5.3.11, MMDB, PTD, and IC Calculator |
| Programmable Thermostat (DI) - Furnace | Each | 122.59 | 122.59 | 100% | Illinois  TRM, v11.0†, Section 5.3.11, MMDB, PTD, and IC Calculator |
| Re-Program Thermostat (DI) - Boiler | Each | 62.31 | 62.31 | 100% | Illinois  TRM, v11.0†, Section 5.3.11, MMDB, PTD, and IC Calculator |
| Re-Program Thermostat (DI) - Furnace | Each | 122.59 | 122.59 | 100% | Illinois  TRM, v11.0†, Section 5.3.11, MMDB, PTD, and IC Calculator |
| Shower Flow Reducer (DI) SF | Each | 1.18 3.04 5.94 | 1.18 3.04 5.95 | 100% | Illinois  TRM, v11.0†, Section 5.4.5, MMDB, PTD, and IC Calculator |
| Shower Flow Reducer (VA) SF | Each | 3.71 | 3.71 | 100% | Illinois  TRM, v11.0†, Section 5.4.5, MMDB, PTD, and IC Calculator |
| Showerhead (DI) SF | Each | Varies | Varies | 100% | Illinois  TRM, v11.0†, Section 5.4.5, MMDB, PTD, and IC Calculator |
| Showerhead (VA) SF | Each | 1.45 3.71 | 1.45 3.72 | 100% | Illinois  TRM, v11.0†, Section 5.4.5, MMDB, PTD, and IC Calculator |

\* 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. When conducted, on-site and telephone interview data collected by Guidehouse.

## Findings and Recommendations

**Finding 1.** The evaluation team determined that 7 Boiler Pipe Insulation measures and 48 Domestic Hot Water Pipe Insulation measures were installed through the Virtual Home Assessment program path based on the gross ex ante savings values. Tracking data did not denote which pipe insulation measures were installed via DI or VHA.

**Recommendation 1.** Indicate whether pipe insulation measures are DI or VHA in the tracking data.

**Finding 2.** The evaluation team applied a NTG value of 1.0 to all DAC measures to calculate net verified therms. The ex ante net therm savings for Low Flow Showerheads and Low Flow Faucet Aerators in the tracking data do not reflect a NTG value of 1.0 for Disadvantage Community measures.

**Recommendation 2.** Ensure all DAC measures use a NTG value of 1.0 for net savings.

##### Impact Analysis Methodology

Guidehouse verified unit savings by using the impact algorithms in IL-TRM v11.0[[1]](#footnote-1) and reviewed the ex ante savings calculation approach from the MMDB and Resource Innovations calculation file.[[2]](#footnote-2) In most cases, the TRM algorithms were correctly applied in the MMDB, but where evaluation found the need to make adjustments, Guidehouse did so accordingly with the TRM guidelines.

Guidehouse calculated verified net energy savings by multiplying the verified gross savings estimates by the NTG ratio. In 2023, the NTG estimates used to calculate the net verified savings were based on past evaluation research and defined by a consensus process through the Illinois Stakeholder Advisory Group (SAG). All DAC measures received an NTG value of 1.0.

##### 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 Table B‑1 and Table B‑2 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‑. 2023 HEJ Program Verified Cost Effectiveness Inputs – PGL

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Program Path | Savings Category | | Units | | Quantity | Effective Useful Life | | Ex Ante Gross Savings (Therms) | | | Verified Gross Savings (Therms) | | Verified Net Savings (Therms) | |
| Direct Install | Advanced Thermostat | | Each | | 114 | 11 | | 10,771 | | | 10,771 | | 10,170 | |
| Air Sealing - Door Sweep | | Each | | 166 | 1 | | 1,212 | | | 1,212 | | 1,151 | |
| Boiler Pipe Insulation | | Linear Feet | | 238 | 15 | | 169 | | | 169 | | 155 | |
| Domestic Hot Water Pipe Insulation | | Linear Feet | | 1213 | 15 | | 2,439 | | | 2,439 | | 2,303 | |
| Low Flow Faucet Aerator | | Each | | 588 | 10 | | 1,855 | | | 1,855 | | 1,868 | |
| Low Flow Showerhead | | Each | | 638 | 10 | | 1,945 | | | 1,945 | | 1,962 | |
| Programmable Thermostat | | Each | | 142 | 8 | | 9,306 | | | 9,306 | | 8,926 | |
| Re-Programmable Thermostat | | Each | | 26 | 2 | | 1,982 | | | 1,982 | | 1,821 | |
| Virtual Home Assessment | Air Handler Filter Cleaning/Replacement | | Each | | 246 | 3 | | 1,951 | | | 1,951 | | 1,830 | |
| Air Sealing - Door Sweep | | Each | | 58 | 1 | | 237 | | | 237 | | 224 | |
| Boiler Pipe Insulation | | Linear Feet | | 186 | 15 | | 103 | | | 103 | | 91 | |
| Domestic Hot Water Pipe Insulation | | Linear Feet | | 234 | 15 | | 368 | | | 368 | | 338 | |
| Low Flow Faucet Aerator | | Each | | 90 | 10 | | 122 | | | 122 | | 124 | |
| Low Flow Showerhead | | Each | | 76 | 10 | | 273 | | | 273 | | 277 | |
| **Total or Weighted Average** | |  | |  | | | **11.3** | | **32,734** | **32,734** | | **31,239** | |

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

Table B‑. 2023 HEJ Program Verified Cost Effectiveness Inputs – NSG

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Program Path | Savings Category | Units | | Quantity | | Effective Useful Life | | Ex Ante Gross Savings (Therms) | | Verified Gross Savings (Therms) | | Verified Net Savings (Therms) | |
| Direct Install | Advanced Thermostat | Each | 42 | | | 11 | | 3,156 | | 3,156 | | 2,871 | |
| Air Sealing - Door Sweep | Each | 65 | | | 1 | | 475 | | 475 | | 420 | |
| Boiler Pipe Insulation | Linear Feet | 178 | | | 15 | | 127 | | 127 | | 113 | |
| Domestic Hot Water Pipe Insulation | Linear Feet | 492 | | | 15 | | 992 | | 992 | | 876 | |
| Low Flow Faucet Aerator | Each | 241 | | | 10 | | 404 | | 404 | | 410 | |
| Low Flow Showerhead | Each | 182 | | | 10 | | 547 | | 547 | | 557 | |
| Programmable Thermostat | Each | 21 | | | 8 | | 1,304 | | 1,304 | | 1,193 | |
| Re-Programmable Thermostat | Each | 4 | | | 2 | | 249 | | 249 | | 199 | |
| Virtual Home Assessment | Air Handler Filter Cleaning/Replacement | Each | 92 | | | 3 | | 729 | | 729 | | 644 | |
| Air Sealing - Door Sweep | Each | 8 | | | 1 | | 33 | | 33 | | 29 | |
| Boiler Pipe Insulation | Linear Feet | 72 | | | 15 | | 40 | | 40 | | 35 | |
| Domestic Hot Water Pipe Insulation | Linear Feet | 48 | | | 15 | | 75 | | 75 | | 66 | |
| Low Flow Faucet Aerator | Each | 29 | | | 10 | | 43 | | 43 | | 44 | |
| Low Flow Showerhead | Each | 23 | | | 10 | | 81 | | 81 | | 82 | |
| **Total or Weighted Average** | | | | |  |  | **11.8** | | **8,253** | | **8,253** | | **7,538** |

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

1. Illinois Statewide Technical Reference Manual (IL-TRM) version 11.0 from http://www.ilsag.info/technical-reference-manual.html [↑](#footnote-ref-1)
2. Franklin Energy Master Measure Database (MMDB - Res and MF, provided February 08, 2023). Excel file 2023\_SFHU\_Resource Innovations Savings Calculator. [↑](#footnote-ref-2)