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|  | Income Eligible Multi-Family and Public Housing Impact Evaluation ReportEnergy Efficiency Plan: Program Year 2024 (1/1/2024-12/31/2024) |
|  | Prepared for:Peoples Gas and North Shore GasDRAFT**March 20, 2025** |
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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 Income Eligible Multi-Family (MFIE) program and the Public Housing Energy Savings (PHES) program. The MFIE program includes the Income Eligible and the Illinois Home Weatherization Assistance Program (IHWAP) program paths. This report presents a summary of the energy impacts for the total program, with relevant measure and program structure details. The appendix presents the impact analysis methodology. Program year 2024 covers January 1, 2024 through December 31, 2024

# Multi-Family Income Eligible and IHWAP Program

## Program Description

The Income Eligible Multi-Family Program provides energy efficiency upgrades to customers in the PGL and NSG territories with incomes below 80% of the Area Median Income (AMI) level as defined by the geography or location of the building and/or the subsidy status and rent levels of the building. The programs offer assessments, direct installation of energy efficiency measures, rebates for replacement of inefficient equipment, technical assistance, and educational information.

There are two program paths offered to multi-family income eligible customers.

* The Income Eligible Multi-Family Savings path, jointly implemented with ComEd.
* The Income Eligible Illinois Home Weatherization Assistance Program (IHWAP), jointly implemented with ComEd and People’s Gas.

The PGL program had 683 participants in 2024 and completed 7,253 projects as shown in Table 1.

Table 1. 2024 MFIE Program Volumetric Summary for PGL

|  |  |  |  |
| --- | --- | --- | --- |
| Participation | Income Eligible | IHWAP | Total |
| Participants \* | 682 | 1 | 683 |
| Installed Projects † | 7,249 | 4 | 7,253 |
| Measure Types Installed ‡ | 57 | 5 | 62 |

\* Participants are defined as unique Gas Account Numbers.
† Installed Projects are defined as unique Work Order IDs.
‡ Measure Types Installed are the distinct count of PGL measure names
*Source: Peoples Gas tracking data and Guidehouse evaluation team analysis.*

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

Table 2. 2024 MFIE Program Installed Measure Quantities for PGL

| Program Category | Program Path | Measure | Quantity Unit | Installed Quantity |
| --- | --- | --- | --- | --- |
| **Multi-Family**  | Income Eligible | Attic Insulation | Sq Ft | 1,121,745 |
|   |   | Assessment/No Savings | Unit | 91,578 |
|   |   | Pipe Insulation | Ln Ft | 35,740 |
|   |   | Air Sealing | Ln Ft | 15,762 |
|   |   | Shower Timer (IU) | Each | 6,005 |
|   |   | Faucet Aerator - Kitchen (IU) | Unit | 4,674 |
|   |   | Showerhead (IU) | Unit | 4,271 |
|   |   | Wall Insulation | Unit | 3,934 |
|   |   | Faucet Aerator - Bathroom (IU) | Unit | 3,136 |
|   |   | Exhaust Damper | Unit | 3,082 |
|   |   | Covers and Gap Sealers for Room AC  | Unit | 2,222 |
|   |   | Steam Traps | Unit | 2,210 |
|   |   | On Demand DHW Control | Unit | 2,108 |
|   |   | Steam Pipe Averaging Controls | Unit | 1,442 |
|   |   | Crawl Space Ceiling Insulation | Sq Ft | 1,440 |
|   |   | Programmable Thermostat | Unit | 271 |
|   |   | Central Water Heater | Unit | 167 |
|   |   | Furnace Filter | Unit | 160 |
|   |   | Boiler Tune Up | Unit | 157 |
|   |   | High Efficiency Furnace | MBH | 80 |
|   |   | Reprogrammable Thermostat | Unit | 78 |
|   |   | Tankless Water Heater | Unit | 64 |
|   |   | DHW Tune Up | Unit | 49 |
|   |   | High Efficiency Boiler | MBH | 12 |
|   |   | Advanced Thermostat | Unit | 11 |
|   |   | Boiler Reset Controls | Unit | 5 |
|   | IHWAP | Assessment/No Savings | Unit | 249 |
|   |   | Custom | Unit | 95 |
|   |   | Showerhead (IU) | Unit | 80 |
|   |   | Faucet Aerator - Bathroom (IU) | Unit | 37 |
|  |   | Faucet Aerator - Kitchen (IU) | Unit | 2 |

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

The NSG program had 16 participants in 2024 and completed 780 projects as shown in the following table.

Table 3. 2024 MFIE Program Volumetric Summary for NSG

|  |  |
| --- | --- |
| Participation | Income Eligible |
| Participants \* | 16 |
| Installed Projects † | 780 |
| Measure Types Installed ‡ | 18 |

\* Participants are defined as unique Gas Account Numbers.
† Installed Projects are defined as unique Work Order IDs.
‡ Measure Types Installed are the distinct count of NSG measure names
Source: North Shore Gas tracking data and Guidehouse evaluation team analysis.

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

Table 4. 2024 MFIE Program Installed Measure Quantities for NSG

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Program Category | Program Path | Measure | Quantity Unit | Installed Quantity |
| **Multi-Family** | Income Eligible | Air Sealing | Ln Ft | 135,431 |
|   |   | Assessment/No Savings | Unit | 19,385 |
|   |   | Attic Insulation | Sq Ft | 12,864 |
|   |   | Shower Timer (IU) | Each | 634 |
|   |   | Faucet Aerator - Kitchen (IU) | Unit | 466 |
|   |   | Covers and Gap Sealers for Room AC  | Unit | 400 |
|   |   | Faucet Aerator - Bathroom (IU) | Unit | 332 |
|   |   | Showerhead (IU) | Unit | 254 |
|   |   | On Demand DHW Control | Unit | 112 |
|   |   | Programmable Thermostat | Unit | 67 |
|   |   | Pipe Insulation | Ln Ft | 50 |
|   |   | DHW Tune Up | Unit | 12 |
|   |   | Boiler Tune Up | Unit | 2 |

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

## Program Savings Detail

Table 5 summarizes the energy savings the PGL MFIE Program achieved by the Income Eligible and IHWAP paths in 2024.

Table 5. 2024 MFIE Program Annual Energy Savings Summary for PGL

| Program Category | Program Path | Ex Ante Gross Savings (Therms) | Verified Gross RR\* | Verified Gross Savings (Therms | NTG† |  NSPO  | Verified Net Savings (Therms) |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Multi-Family** | Income Eligible | 1,785,173 | 100% | 1,785,948 | 1.00 | N/A | 1,785,948 |
|  | IHWAP | 5,804 | 100% | 5,804 | 1.00 | N/A | 5,804 |
| **Total**  | **1,790,976** | **100%** | **1,791,752** | **1.00** | **N/A** | **1,791,752** |

\* 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/>.

‡ Non-participant spillover (NPSO) factor of 1.083 does not apply to this program.

Source: Evaluation team analysis.

Table 6 summarizes the energy savings the NSG MFIE Program achieved in 2024.

Table 6. 2024 MFIE Program Annual Energy Savings Summary for NSG

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Program Category | Program Path | Ex Ante Gross Savings (Therms) | Verified Gross RR\* | Verified Gross Savings (Therms | NTG† |  NSPO  | Verified Net Savings (Therms) |
| **Multi-Family**  | **Income Eligible** | **82,212** | **100%** | **82,211** | **1.00** | **N/A** | **82,211** |

\* 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/>.
*Source: Evaluation team analysis.*

## Program Savings by Measure

The PGL MFIE program includes 26 measures as shown in Table 7. Attic insulation and steam trap measures contributed the most savings.

Table 7. 2024 MFIE 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) |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Multi-Family** | Income Eligible | Attic Insulation | 650,034 | 100% | 650,034 | 1.00 | 650,034 |
|  |   | Steam Traps | 336,882 | 100% | 336,683 | 1.00 | 336,683 |
|  |   | Pipe Insulation | 293,619 | 100% | 293,619 | 1.00 | 293,619 |
|  |   | On Demand DHW Control | 132,172 | 100% | 132,172 | 1.00 | 132,172 |
|  |   | Boiler Tune Up | 93,730 | 100% | 93,730 | 1.00 | 93,730 |
|  |   | Steam Pipe Averaging Controls | 88,136 | 100% | 88,089 | 1.00 | 88,089 |
|  |   | Showerhead (IU) | 52,799 | 100% | 52,782 | 1.00 | 52,782 |
|  |   | High Efficiency Boiler | 24,306 | 100% | 24,321 | 1.00 | 24,321 |
|  |   | Covers and Gap Sealers for Room AC  | 22,986 | 105% | 24,068 | 1.00 | 24,068 |
|  |   | Shower Timer (IU) | 22,783 | 100% | 22,782 | 1.00 | 22,782 |
|  |   | Air Sealing | 18,956 | 100% | 18,956 | 1.00 | 18,956 |
|  |   | Faucet Aerator - Kitchen (IU) | 13,220 | 100% | 13,183 | 1.00 | 13,183 |
|  |   | Programmable Thermostat | 10,976 | 100% | 10,976 | 1.00 | 10,976 |
|  |   | Faucet Aerator - Bathroom (IU) | 5,319 | 100% | 5,301 | 1.00 | 5,301 |
|  |   | Boiler Reset Controls | 4,381 | 100% | 4,381 | 1.00 | 4,381 |
|  |   | DHW Tune Up | 3,722 | 100% | 3,721 | 1.00 | 3,721 |
|  |   | Reprogrammable Thermostat | 3,198 | 100% | 3,198 | 1.00 | 3,198 |
|  |   | Tankless Water Heater | 2,705 | 100% | 2,705 | 1.00 | 2,705 |
|  |   | Furnace Filter | 1,608 | 100% | 1,608 | 1.00 | 1,608 |
|  |   | Central Water Heater | 1,586 | 100% | 1,586 | 1.00 | 1,586 |
|  |   | Advanced Thermostat | 692 | 100% | 692 | 1.00 | 692 |
|  |   | Exhaust Damper | 549 | 100% | 549 | 1.00 | 549 |
|  |   | Wall Insulation | 468 | 100% | 468 | 1.00 | 468 |
|  |   | Crawl Space Ceiling Insulation | 174 | 100% | 174 | 1.00 | 174 |
|  |   | High Efficiency Furnace | 172 | 100% | 172 | 1.00 | 172 |
|  |   | Assessment/No Savings | 0 | N/A | 0 | 1.00 | 0 |
| ***Income Eligible Subtotal*** | ***1,785,173*** | **100%** | ***1,785,948*** | ***1.00*** | ***1,785,948*** |
|  | IHWAP | Custom | 5,400 | 100% | 5,400 | 1.00 | 5,400 |
|  |   | Showerhead (IU) | 321 | 100% | 321 | 1.00 | 321 |
|  |   | Faucet Aerator - Bathroom (IU) | 66 | 100% | 66 | 1.00 | 66 |
|  |   | Faucet Aerator - Kitchen (IU) | 18 | 100% | 18 | 1.00 | 18 |
| ***IHWAP Subtotal*** | ***5,804*** | ***100%*** | ***5,804*** | ***1.00*** | ***5,804*** |
| **Total**  | **1,790,976** | **100%** | **1,791,752** | **1.00** | **1,791,752** |

\* 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/>.

Source: Evaluation team analysis.

Table 8. 2024 MFIE 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) |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Multi-Family** | Income Eligible | Air Sealing | 56,339 | 100% | 56,339 | 1.00 | 56,339 |
|  |   | On Demand DHW Control | 7,022 | 100% | 7,022 | 1.00 | 7,022 |
|  |   | Attic Insulation | 4,784 | 100% | 4,784 | 1.00 | 4,784 |
|  |   | Showerhead (IU) | 3,139 | 100% | 3,139 | 1.00 | 3,139 |
|  |   | Covers and Gap Sealers for Room AC  | 2,816 | 100% | 2,816 | 1.00 | 2,816 |
|  |   | Programmable Thermostat | 2,714 | 100% | 2,714 | 1.00 | 2,714 |
|  |   | Shower Timer (IU) | 2,405 | 100% | 2,405 | 1.00 | 2,405 |
|  |   | Faucet Aerator - Kitchen (IU) | 1,314 | 100% | 1,314 | 1.00 | 1,314 |
|  |   | Boiler Tune Up | 563 | 100% | 563 | 1.00 | 563 |
|  |   | Faucet Aerator - Bathroom (IU) | 561 | 100% | 561 | 1.00 | 561 |
|  |   | DHW Tune Up | 400 | 100% | 400 | 1.00 | 400 |
|  |   | Pipe Insulation | 153 | 100% | 153 | 1.00 | 153 |
| **Total**  | **82,212** | **100%** | **82,211** | **1.00** | **82,211** |

\* 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/>.

Source: Evaluation team analysis.

## Impact Analysis Findings and Recommendations

### Impact Parameter Estimates

Table 9 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%. Appendix 1 provides a description of the impact analysis methodology.

Table 9. 2024 MFIE Program 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 | 100% | Illinois TRM, v12.0†, Section 5.3.16 and PTD\* |
| Air Sealing | Ln Ft | Varies | Varies | 100% | Illinois TRM, v12.0†, Section 5.6.1 and PTD\* |
| Attic Insulation | Sq Ft | Varies | Varies | 100% | Illinois TRM, v12.0†, Section 5.6.5 and PTD\* |
| Boiler Reset Controls | Unit | Varies | Varies | 100% | Illinois TRM, v12.0†, Section 4.4.4 and PTD\* |
| Boiler Tune Up | Unit | Varies | Varies | 100% | Illinois TRM, v12.0†, Section 4.4.2 and PTD\* |
| Central Water Heater | Unit | 9.49 | 9.49 | 100% | Illinois TRM, v12.0†, Section 4.3.7 and PTD\* |
| Covers and Gap Sealers for Room AC - NSG MFIE | Unit | Varies | Varies | 100% | Illinois TRM, v12.0†, Section 4.4.38 and PTD\* |
| Covers and Gap Sealers for Room AC - PSG MFIE | Unit | Varies | Varies | 105% | Illinois TRM, v12.0†, Section 4.4.38 and PTD\* |
| Crawl Space Ceiling Insulation | Sq Ft | Varies | Varies | 100% | Illinois TRM, v12.0†, Section 5.6.3 and PTD\* |
| Custom - Attic Insulation | Unit | 973 | 973 | 100% | Project File Review‡ |
| Custom - Thermostatic Radiator Valve | Unit | 2,853 | 2,853 | 100% | Project File Review‡ |
| Custom - Water Heater | Unit | 1,574 | 1,574 | 100% | Project File Review‡ |
| DHW Tune Up | Unit | Varies | Varies | 100% | Illinois TRM, v12.0†, Section 4.3.10 and PTD\* |
| Exhaust Damper | Unit | Varies | Varies | 100% | Illinois TRM, v12.0†, Section 4.4.23 and PTD\* |
| Faucet Aerator - Bathroom (IU) - PGL MFIE | Unit | 1.70 | 1.69 | 100% | Illinois TRM, v12.0†, Section 5.4.4 and PTD\* |
| Faucet Aerator - Bathroom (IU) - PGL IHWAP | Unit | 1.78 | 1.78 | 100% | Illinois TRM, v12.0†, Section 5.4.4 and PTD\* |
| Faucet Aerator - Bathroom (IU) - NSG MFIE | Unit | 1.69 | 1.69 | 100% | Illinois TRM, v12.0†, Section 5.4.4 and PTD\* |
| Faucet Aerator - Kitchen (IU) - PGL MFIE | Unit | 2.83 | 2.82 | 100% | Illinois TRM, v12.0†, Section 5.4.4 and PTD\* |
| Faucet Aerator - Kitchen (IU) - PGL IHWAP | Unit | 8.80 | 8.80 | 100% | Illinois TRM, v12.0†, Section 5.4.4 and PTD\* |
| Faucet Aerator - Kitchen (IU) - NSG MFIE | Unit | 2.82 | 2.82 | 100% | Illinois TRM, v12.0†, Section 5.4.4 and PTD\* |
| Furnace Filter | Unit | 10.05 | 10.05 | 100% | Illinois TRM, v12.0†, Section 5.3.21 and PTD\* |
| High Efficiency Boiler | MBH | Varies | Varies | 100% | Illinois TRM, v12.0†, Section 4.4.10 and PTD\* |
| High Efficiency Furnace | MBH | Varies | Varies | 100% | Illinois TRM, v12.0†, Section 4.4.11 and PTD\* |
| On Demand DHW Control | Unit | 62.7 | 62.7 | 100% | Illinois TRM, v12.0†, Section 4.3.8 and PTD\* |
| Pipe Insulation | Ln Ft | Varies | Varies | 100% | Illinois TRM, v12.0†, Section 4.4.14 and PTD\* |
| Programmable Thermostat | Unit | Varies | Varies | 100% | Illinois TRM, v12.0†, Section 5.3.11 and PTD\* |
| Reprogrammable Thermostat | Unit | 41 | 41 | 100% | Illinois TRM, v12.0†, Section 5.3.11 and PTD\* |
| Shower Timer (IU) | Each | 3.79 | 3.79 | 100% | Illinois TRM, v12.0†, Section 5.4.9 and PTD\* |
| Showerhead (IU) - PGL MFIE | Unit | 12.36 | 12.36 | 100% | Illinois TRM, v12.0†, Section 5.4.5 and PTD\* |
| Showerhead (IU) - PGL IHWAP | Unit | 4.01 | 4.01 | 100% | Illinois TRM, v12.0†, Section 5.4.5 and PTD\* |
| Showerhead (IU) - NSG MFIE | Unit | 12.36 | 12.36 | 100% | Illinois TRM, v12.0†, Section 5.4.5 and PTD\* |
| Steam Pipe Averaging Controls | Unit | Varies | Varies | 100% | Illinois TRM, v12.0†, Section 4.4.36 and PTD\* |
| Steam Traps | Unit | Varies | Varies | 100% | Illinois TRM, v12.0†, Section 4.4.16 and PTD\* |
| Tankless Water Heater | Unit | 42 | 42 | 100% | Illinois TRM, v12.0†, Section 4.3.1 and PTD\* |
| Wall Insulation | Sq Ft | Varies | Varies | 100% | Illinois TRM, v12.0†, Section 5.6.4 and PTD\* |

\* Program Tracking Data (PTD) provided by Peoples Gas and North Shore Gas; extract dated January 30, 2025.
† State of Illinois Technical Reference Manual version 12.0 from <http://www.ilsag.info/technical-reference-manual.html>.

## Findings and Recommendations

The evaluation team developed findings and recommendations based on the 2024 evaluation, organized by path type in the following sections.

### Multi-Family Income Eligible

**Finding 1.** For one instance, Work Order ID WO-6452982, of the Steam Pipe Averaging Controls, the evaluation team adjusted the existing boiler annual fuel utilization efficiency (AFUE) rating from 61.6% to 64.8%. The existing boiler efficiency of 61.6 AFUE% applies to in-unit existing boilers, whereas 64.8 AFUE% applies to multifamily low-pressure boilers. This modification resulted in a realization rate of 95% for this instance.

**Recommendation 1.** Use the appropriate boiler efficiency depending on the specific use case, consistent with the Illinois Statewide Technical Reference Manual v12.0 (IL-TRM).[[1]](#footnote-2)

**Finding 2.** For 425 out of 2,222 units, or three Work Order IDs (WO-5511628, WO-5213964, and WO-5785719), for the AC Cover and Gap Sealer measure, the ex ante deemed savings per unit did not align with the Number of Floors provided in the program data. For example, the Number of Floors for WO-5511628 is listed in the program data as 22. In this example, the ex ante savings calculation utilized 4 floors.

**Recommendation 2.** Utilize the Number of Floors to determine deemed savings per unit. The evaluation team referenced the program data for the Number of Floors.

**Finding 3.** For two Work Order IDs (WO-6098648 and WO-6109718), the evaluation team selected the Equivalent Full Load Hours (EFLH) based on the Building Type listed in the Work Order Measure Name. In both instances, the ex ante savings calculation utilized the Mid Rise Building Type and 1,782 EFLH. The evaluation team utilized the High-Rise Building Type and 1,540 EFLH.

**Recommendation 3.** ForMultifamily Space Heating Low Pressure Steam Systems[[2]](#footnote-3) at High-Rise or Mid-Rise Multifamily buildings, select EFLH based on the Building Type, consistent with the IL-TRM v12.0.

**Finding 4.** For five Work Order IDs with Faucet Aerator measures, the evaluation team deemed the installation location to be in a residential setting, whereas the implementer deemed the installation location to be in a commercial setting. Three out of five Work Order IDs (WO-5818259, WO-5990253, and WO-6627230) include Faucet Aerators located in Kitchens only. Two out of five Work Order IDs (WO-6032791 and WO-6732671) include Faucet Aerators located in both Bathrooms and Kitchens.

**Recommendation 4.** Consider enhancing program data collection to distinguish Faucet Aerator installation locations in Multifamily buildings (i.e., in-unit or common area). Reference IL TRM v12 5.4.4 for installation in a residential setting (i.e., in-unit). Reference IL TRM v12 4.3.2 for installation in a commercial setting (i.e., common area).

**Finding 5.** For one Work Order ID (WO-5990480) with a Showerhead measure, the evaluation team deemed the installation location to be in a residential setting, whereas the implementer deemed the installation location to be in a commercial setting.

**Recommendation 5.** Consider enhancing program data collection to distinguish Showerhead installation locations in Multifamily buildings (i.e., in-unit or common area). Reference IL TRM IL TRM v12 5.4.5 for installation in a residential setting (i.e., in-unit). Reference IL TRM v12 4.3.3 for installation in a commercial setting (i.e., common area).

**Finding 6.** For Work Order ID WO-6256746, the program data reported a negative savings and incentives amount. The evaluation team did not change the reported savings, consistent with the program data.

**Recommendation 6.** Ensure there are additional notes in the tracking system where negative savings are reported in the program data.

### Multi-Family IHWAP

The evaluation team verified all savings for the IHWAP program track, and the realization rate was 1.00. There are no findings and recommendations for IHWAP measures.

# Public Housing Energy Savings Program

## Program Description

The Public Housing Energy Savings Program (PHES) works with Public Housing Authorities (PHAs) in ComEd, Nicor Gas, PGL, and NSG territories to achieve electricity and natural gas savings. The PHA is the program participant, though the residents of the properties are directly affected by the program through in-unit and common area upgrades. Gas savings opportunities for NSG included room air conditioner (AC) covers and gap sealing, and furnace tune-ups. Gas savings opportunities for PGL included bathroom and kitchen faucet aerators, showerheads, shower timers, room AC covers and gap sealing, boiler and furnace tune-ups, pipe insulation, water heaters, and steam traps.

The PGL PHES program had 14 participants in 2024, completed 127 projects, and installed 13 measure types as shown in Table 10.

Table 10. 2024 PHES Program Volumetric Summary for PGL

|  |  |
| --- | --- |
| Participation | Public Housing Authority |
| Participants \* | 14 |
| Installed Projects † | 127 |
| Measure Types Installed ‡ | 13 |

\* Participants are defined as unique Gas Account Numbers.

† Installed Projects are defined as unique Work Order IDs.

‡ Measure Types Installed are the distinct count of PGL measure names.
 *Source: Peoples Gas tracking data and Guidehouse evaluation team analysis.*

Table 11 summarizes the installed measure quantities that are the basis for verified energy savings.

Table 11. 2024 PHES Program Installed Measure Quantities for PGL

| Program Category | Program Path | Measure | Quantity Unit | Installed Quantity |
| --- | --- | --- | --- | --- |
| **Multi-Family** | Public Housing | Furnace Tune Up | Unit | 1,519 |
|  |   | Assessment/No Savings | Unit | 389 |
|  |   | Pipe Insulation | Ln Ft | 200 |
|  |   | Shower Timer (IU) | Each | 114 |
|  |   | Covers and Gap Sealers for Room AC  | Unit | 113 |
|  |   | Faucet Aerator - Bathroom (IU) | Unit | 90 |
|  |   | Steam Traps | Unit | 84 |
|  |   | Faucet Aerator - Kitchen (IU) | Unit | 83 |
|  |   | Showerhead (IU) | Unit | 65 |
|  |   | Boiler Tune Up | Unit | 19 |
|  |   | Water Heater | Unit | 2 |

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

The NSG PHES program had 2 participants in 2024, completed 2 projects, and installed 2 measure types as shown in Table 12.

Table 12. 2024 PHES Program Volumetric Summary for NSG

|  |  |
| --- | --- |
| Participation | Public Housing Authority |
| Participants \* | 2 |
| Installed Projects † | 2 |
| Measure Types Installed ‡ | 2 |

\* Participants are defined as unique Gas Account Numbers.

† Installed Projects are defined as unique Work Order IDs.
‡ Measure Types Installed are the distinct count of NSG measure names.
*Source: North Shore Gas tracking data and Guidehouse evaluation team analysis.*

Table 13 summarizes the installed measure quantities that are the basis for verified energy savings.

Table 13. 2024 PHES Program Installed Measure Quantities for NSG

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Program Category | Program Path | Measure | Quantity Unit | Installed Quantity |
| **Multi-Family** | Public Housing | Covers and Gap Sealers for Room AC  | Unit | 59 |
|  |   | Furnace Tune Up | Unit | 51 |

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

## Program Savings Detail

Table 14 summarizes the energy savings the PGL PHES program achieved in 2024.

Table 14. 2024 PHES 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) |
| --- | --- | --- | --- | --- | --- | --- |
| **PHES** | Public Housing | 58,846 | 100% | 58,846 | 1.00 | 58,846 |

\* 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/>.

Source: Evaluation team analysis.

Table 15 summarizes the energy savings the NSG PHES program achieved in 2024.

Table 15. 2024 PHES 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) |
| **PHES** | Public Housing | 1,549 | 100% | 1,549 | 1.00 | 1,549 |

\* 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/>.

Source: Evaluation team analysis.

## Program Savings by Measure

The PGL PHES program includes 11 measures as shown in Table 16. The boiler tune-up and steam trap measures contributed the most savings.

Table 16. 2024 PHES 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) |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **PHES** | Public Housing | Furnace Tune Up | 19,412 | 100% | 19,412 | 1.00 | 19,412 |
|  |   | Boiler Tune Up | 18,570 | 100% | 18,570 | 1.00 | 18,570 |
|  |   | Steam Traps | 17,586 | 100% | 17,586 | 1.00 | 17,586 |
|  |   | Covers and Gap Sealers for Room AC  | 1,148 | 100% | 1,148 | 1.00 | 1,148 |
|  |   | Showerhead (IU) | 803 | 100% | 803 | 1.00 | 803 |
|  |   | Pipe Insulation | 487 | 100% | 487 | 1.00 | 487 |
|  |   | Shower Timer (IU) | 433 | 100% | 432 | 1.00 | 432 |
|  |   | Faucet Aerator - Kitchen (IU) | 234 | 100% | 234 | 1.00 | 234 |
|  |   | Faucet Aerator - Bathroom (IU) | 152 | 100% | 152 | 1.00 | 152 |
|  |   | Water Heater | 20 | 100% | 20 | 1.00 | 20 |
| **Total**  | **58,846** | **100%** | **58,846** | **1.00** | **58,846** |

\* 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/>.

The NSG PHES program provided two types of measures in 2024, as shown in Table 17.

Table 17. 2024 PHES 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) |
| **PHES** | Public Housing | Furnace Tune Up | 1,028 | 100% | 1,028 | 1.00 | 1,028 |
|  |   | Covers and Gap Sealers for Room AC  | 521 | 100% | 521 | 1.00 | 521 |
| **Total**  | **1,549** | **100%** | **1,549** | **1.00** | **1,549** |

\* 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/>.
Source: Evaluation team analysis.

## Impact Analysis Findings and Recommendations

### Impact Parameter Estimates

Table 18 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. Appendix 1 provides a description of the impact analysis methodology.

Table 18. 2024 PHES Program Verified Gross Savings Parameters for PGL and NSG

| Measure | Unit Basis | Ex Ante Gross (therms/unit) | Verified Gross (therms/unit) | Realization Rate | Data Source(s) |
| --- | --- | --- | --- | --- | --- |
| Boiler Tune Up | Unit | Varies | Varies | 100% | Illinois TRM, v12.0†, Section 4.4.2 and PTD\* |
| Furnace Tune Up | Unit | Varies | Varies | 100% | Illinois TRM, v12.0†, Section 4.4.2 and PTD\* |
| Covers and Gap Sealers for Room AC  | Unit | Varies | Varies | 100% | Illinois TRM, v12.0†, Section 4.4.38 and PTD\* |
| Faucet Aerator - Bathroom (IU) | Unit | 1.69 | 1.69 | 100% | Illinois TRM, v12.0†, Section 5.4.4 and PTD\* |
| Faucet Aerator - Kitchen (IU) | Unit | 2.82 | 2.82 | 100% | Illinois TRM, v12.0†, Section 5.4.4 and PTD\* |
| Pipe Insulation | Ln Ft | Varies | Varies | 100% | Illinois TRM, v12.0†, Section 4.4.14 and PTD\* |
| Shower Timer (IU) | Each | 3.79 | 3.79 | 100% | Illinois TRM, v12.0†, Section 5.4.9 and PTD\* |
| Showerhead (IU) | Unit | 12.36 | 12.36 | 100% | Illinois TRM, v12.0†, Section 5.4.5 and PTD\* |
| Steam Traps | Unit | Varies | Varies | 100% | Illinois TRM, v12.0†, Section 4.4.16 and PTD\* |
| Water Heater | Unit | 10.09 | 10.09 | 100% | Illinois TRM, v12.0†, Section 4.3.1 and PTD\* |

\* Program Tracking Data (PTD) provided by Peoples Gas and North Shore Gas; extract dated January 30, 2025.
† State of Illinois Technical Reference Manual version 12.0 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

There were no findings and recommendations for the PHES program track.

##### Appendix A. 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 v12.0 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 v12.0.
* 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 2024, 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.
* Guidehouse sourced methodologies and assumptions from the IL-TRM v12.0 and the final 2024 tracking data.

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

Income Eligible and IHWAP Program

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. 2024 MFIE Program 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** | Income Eligible | Attic Insulation | Sq Ft | 1,121,745 | 20.0 | 650,034 | 650,034 | 650,034 |
|   |   | Steam Traps | Unit | 2,210 | 6.0 | 336,882 | 336,683 | 336,683 |
|   |   | Steam Pipe Insulation | Ln Ft | 35,740 | 15.0 | 293,619 | 293,619 | 293,619 |
|   |   | On Demand DHW Control | Unit | 2,108 | 15.0 | 132,172 | 132,172 | 132,172 |
|   |   | Boiler Tune Up | Unit | 157 | 3.0 | 93,730 | 93,730 | 93,730 |
|   |   | Steam Pipe Averaging Controls | Unit | 1,442 | 20.0 | 88,136 | 88,089 | 88,089 |
|   |   | Showerhead (IU) | Unit | 4,271 | 10.0 | 52,799 | 52,782 | 52,782 |
|   |   | High Efficiency Boiler | MBH | 12 | 25.0 | 24,306 | 24,321 | 24,321 |
|   |   | Covers and Gap Sealers for Room AC  | Unit | 2,222 | 5.0 | 22,986 | 24,068 | 24,068 |
|   |   | Shower Timer (IU) | Unit | 6,005 | 2.0 | 22,783 | 22,782 | 22,782 |
|   |   | Air Sealing | Ln Ft | 15,762 | 20.0 | 18,956 | 18,956 | 18,956 |
|   |   | Faucet Aerator - Kitchen (IU) | Unit | 4,674 | 10.0 | 13,220 | 13,183 | 13,183 |
|   |   | Programmable Thermostat | Unit | 271 | 16.0 | 10,976 | 10,976 | 10,976 |
|   |   | Faucet Aerator - Bathroom (IU) | Unit | 3,136 | 10.0 | 5,319 | 5,301 | 5,301 |
|   |   | Boiler Reset Controls | Unit | 5 | 16.0 | 4,381 | 4,381 | 4,381 |
|   |   | DHW Tune Up | Unit | 49 | 3.0 | 3,722 | 3,721 | 3,721 |
|   |   | Reprogrammable Thermostat | Unit | 78 | 2.0 | 3,198 | 3,198 | 3,198 |
|   |   | Tankless Water Heater | Unit | 64 | 20.0 | 2,705 | 2,705 | 2,705 |
|   |   | Furnace Filter | Unit | 160 | 3.0 | 1,608 | 1,608 | 1,608 |
|   |   | Central Water Heater | Unit | 167 | 15.0 | 1,586 | 1,586 | 1,586 |
|  |   | Advanced Thermostat | Unit | 11 | 11.0 | 692 | 692 | 692 |
|   |   | Exhaust Damper | Unit | 3,082 | 15.0 | 549 | 549 | 549 |
|   |   | Wall Insulation | Unit | 3,934 | 20.0 | 468 | 468 | 468 |
|   |   | Crawl Space Ceiling Insulation | Sq Ft | 1,440 | 20.0 | 174 | 174 | 174 |
|   |   | High Efficiency Furnace | MBH | 80 | 20.0 | 172 | 172 | 172 |
|   |   | Assessment/No Savings | Unit | 91,578 | - | - | - | - |
|   | IHWAP | Custom - Thermostatic Radiator Valve | Unit | 100 | 15.0 | 2,853 | 2,853 | 2,853 |
|   |   | Custom - Water Heater | Unit | 1 | 20.0 | 1,574 | 1,574 | 1,574 |
|   |   | Custom - Attic Insulation | Unit | 93 | 20.0 | 973 | 973 | 973 |
|   |   | Showerhead (IU) | Unit | 80 | 10.0 | 321 | 321 | 321 |
|   |   | Faucet Aerator - Bathroom (IU) | Unit | 37 | 10.0 | 66 | 66 | 66 |
|   |   | Faucet Aerator - Kitchen (IU) | Unit | 2 | 10.0 | 18 | 18 | 18 |
| **Total or Weighted Average** |  |  |  | **14.4** | **1,790,976** | **1,791,752** | **1,791,752** |

Source: Evaluation team analysis.

Table B‑2. 2024 MFIE Program 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** | Income Eligible | Air Sealing | Ln Ft | 135,431 | 20 | 56,339 | 56,339 | 56,339 |
|   |   | On Demand DHW Control | Unit | 112 | 15 | 7,022 | 7,022 | 7,022 |
|   |   | Attic Insulation | Sq Ft | 12,864 | 20 | 4,784 | 4,784 | 4,784 |
|   |   | Showerhead (IU) | Unit | 254 | 10 | 3,139 | 3,139 | 3,139 |
|   |   | Covers and Gap Sealers for Room AC  | Unit | 400 | 5 | 2,816 | 2,816 | 2,816 |
|   |   | Programmable Thermostat | Unit | 67 | 16 | 2,714 | 2,714 | 2,714 |
|   |   | Shower Timer (IU) | Unit | 634 | 2 | 2,405 | 2,405 | 2,405 |
|   |   | Faucet Aerator - Kitchen (IU) | Unit | 466 | 10 | 1,314 | 1,314 | 1,314 |
|   |   | Boiler Tune Up | Unit | 2 | 3 | 563 | 563 | 563 |
|   |   | Faucet Aerator - Bathroom (IU) | Unit | 332 | 10 | 561 | 561 | 561 |
|   |   | DHW Tune Up | Unit | 12 | 3 | 400 | 400 | 400 |
|   |   | Pipe Insulation | Ln Ft | 50 | 15 | 153 | 153 | 153 |
|   |   | Assessment/No Savings | Unit | 19,385 | - | - | - | 0 |
| **Total or Weighted Average** | **17.6** | **82,212** | **82,211** | **82,211** |

Source: Evaluation team analysis.

Public Housing Energy Savings Program

Table B-3 and Table B‑4 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-3 2024 PHES Program 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)  |
| **PHES** | Public Housing | Furnace Tune Up | Unit | 1,519 | 3.0 | 19,412 | 19,412 | 19,412 |
|   |   | Boiler Tune Up | Unit | 19 | 3.0 | 18,570 | 18,570 | 18,570 |
|   |   | Steam Traps | Unit | 84 | 6.0 | 17,586 | 17,586 | 17,586 |
|   |   | Covers and Gap Sealers for Room AC  | Unit | 113 | 5.0 | 1,148 | 1,148 | 1,148 |
|   |   | Showerhead (IU) | Unit | 65 | 10.0 | 803 | 803 | 803 |
|   |   | Pipe Insulation | Ln Ft | 200 | 15.0 | 487 | 487 | 487 |
|   |   | Shower Timer (IU) | Unit | 114 | 2.0 | 433 | 432 | 432 |
|   |   | Faucet Aerator - Kitchen (IU) | Unit | 83 | 10.0 | 234 | 234 | 234 |
|   |   | Faucet Aerator - Bathroom (IU) | Unit | 90 | 10.0 | 152 | 152 | 152 |
|   |   | Water Heater | Unit | 2 | 20.0 | 20 | 20 | 20 |
| **Total or Weighted Average** |  |  | **4.2** | **58,846** | **58,846** | **58,846** |

Source: Evaluation team analysis.

Table B‑4. 2024 PHES Program 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) |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **PHES** | Public Housing | Furnace Tune Up | Unit | 51 | 3 | 1,028 | 1,028 | 1,028 |
|   |   | Covers and Gap Sealers for Room AC  | Unit | 59 | 5 | 521 | 521 | 521 |
| **Total or Weighted Average** | **3.7** | **1,549** | **1,549** | **1,549** |

Source: Evaluation team analysis.

1. In this report, unless stated otherwise, IL-TRM refers to version 12.0 (v12.0). [↑](#footnote-ref-2)
2. For steam traps that are part of steam systems where the boiler cycles on/off to maintain space setpoint temperature or for steam traps located downstream of a steam control valve that opens/closes to maintain setpoint temperature. [↑](#footnote-ref-3)