



Multi-Family Income Eligible and Public Housing Impact Evaluation Report

Energy Efficiency Plan: Program Year 2023
(1/1/2023-12/31/2023)

Prepared for:

Peoples Gas and North Shore Gas

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1. Introduction

This report presents the results of the impact evaluation of the Peoples Gas (PGL) and North Shore Gas (NSG) 2023 Multi-Family Income Eligible (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 2023 covers January 1, 2023 through December 31, 2023.

2. Multi-Family Income Eligible Program

2.1 Program Description

The Multi-Family Income Eligible Program provides energy efficiency upgrades to customers in the PGL and NSG territories with incomes below 80% of the Area Median Income (AMI) 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 MFIE customers.

- The Income Eligible path, jointly implemented with ComEd.
- The IHWAP, jointly implemented with ComEd.

The PGL program had 574 participants in 2023 and completed 2,388 projects, as shown in Table 2-1.

Table 2-1. 2023 Volumetric Summary for PGL

Participation	Income Eligible	IHWAP	Total
Participants *	573	1	574
Installed Projects †	2,386	2	2,388
Measures Type Installed	47	4	51

* 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.

Table 2-2. 2023 MFIE Program Installed Measure Quantities for PGL

Program Category	Program Path	Measure	Quantity Unit	Installed Quantity
Multi-Family	Income Eligible	Attic Insulation	Sq Ft	868,790
		Pipe Insulation	Ln Ft	188,173
		Air Sealing	Ln Ft	59,410
		Shower Timer (IU)	Each	10,163
		Showerhead (IU)	Unit	9,563
		Wall Insulation	Sq Ft	8,892
		Faucet Aerator - Kitchen (IU)	Unit	7,500
		Faucet Aerator - Bathroom (IU)	Unit	5,831
		Steam Traps	Unit	5,522
		Boiler Tune Up	Unit	4,549
		Crawl Space Ceiling Insulation	Sq Ft	2,120
		Programmable Thermostat	Unit	1,859
		On Demand DHW Control	Unit	1,382
		Covers and Gap Sealers for Room AC	Unit	1,274
		Steam Pipe Averaging Controls	Unit	1,216
		Reprogrammable Thermostat	Unit	690
		High Efficiency Furnace	MBH	542
		Central Water Heater	Unit	176
		High Efficiency Boiler	Unit	129
		Advanced Thermostat	Unit	95
	Thermostatic Radiator Valve	Unit	36	
	Water Heater	Unit	36	
	Boiler Reset Controls	Unit	3	
	IHWAP	Air Sealing	Ln Ft	25,749
		Custom - Covers and Gap Sealers for AC	Unit	1

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

The NSG program had 23 participants in 2023 and completed 1,263 projects, as shown in Table 2-3.

Table 2-3. 2023 MFIE Program Volumetric Summary for NSG

Participation	Income Eligible	IHWAP
Participants *	23	0
Installed Projects †	1,263	0
Measure Types Installed	21	0

* 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 MFIE Program Installed Measure Quantities for NSG

Program Category	Program Path	Measure	Quantity Unit	Installed Quantity
Multi-Family	Income Eligible	Air Sealing	Ln Ft	981,112
		Shower Timer (IU)	Unit	18,531
		Faucet Aerator - Bathroom (IU)	Unit	18,438
		Showerhead (IU)	Unit	18,133
		Faucet Aerator - Kitchen (IU)	Unit	8,604
		Attic Insulation	Sq Ft	7,881
		Pipe Insulation	Ln Ft	1,444
		Covers and Gap Sealers for Room AC	Unit	128
		Boiler Tune Up	Unit	27
		Programmable Thermostat	Unit	12
Boiler Reset Controls	Unit	3		

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

2.2 Program Savings Detail

Table 2-5 summarizes the energy savings the PGL Income Eligible and IHWAP Program achieved by path in 2023.

Table 2-5. 2023 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†	Verified Net Savings (Therms)
Multi-Family	Income Eligible	1,297,506	99%	1,290,593	1.00	1,290,593
	IHWAP	11,973	53%	6,394	1.00	6,394
Total		1,309,479	99%	1,296,987	1.00	1,296,987

* 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 website: <https://www.ilsag.info/evaluator-ntg-recommendations-for-2023/>.

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

Table 2-6 summarizes the energy savings the NSG Income Eligible Program achieved by path in 2023.

Table 2-6. 2023 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	Verified Net Savings (Therms)
Multi-Family	Income Eligible	446,390	100%	447,004	1.00	447,004
Total		446,390	100%	447,004	1.00	447,004

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

2.2.1 Program Savings by Measure

The PGL program includes 25 measures, as shown in Table 2-7. The Attic Insulation and Pipe Insulation measures in the Income Eligible path contributed the most savings.

Table 2-7. 2023 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	425,384	98%	417,755	1.00	417,755		
		Pipe Insulation	280,390	100%	281,169	1.00	281,169		
		Steam Traps	189,809	100%	189,809	1.00	189,809		
		Boiler Tune Up	118,090	102%	119,523	1.00	119,523		
		On Demand DHW Control	81,134	100%	81,134	1.00	81,134		
		Steam Pipe Averaging Controls	67,089	95%	63,837	1.00	63,837		
		High Efficiency Boiler	64,089	100%	64,089	1.00	64,089		
		Showerhead (IU)	18,614	100%	18,611	1.00	18,611		
		Covers and Gap Sealers for Roo AC	12,760	100%	12,762	1.00	12,762		
		Programmable Thermostat	10,244	100%	10,244	1.00	10,244		
		Shower Timer (IU)	6,173	100%	6,172	1.00	6,172		
		Air Sealing	5,748	100%	5,748	1.00	5,748		
		Reprogrammable Thermostat	4,577	100%	4,577	1.00	4,577		
		Faucet Aerator - Kitchen (IU)	3,134	100%	3,134	1.00	3,134		
		Boiler Reset Controls	2,972	100%	2,972	1.00	2,972		
		Central Water Heater	1,671	100%	1,671	1.00	1,671		
		High Efficiency Furnace	1,663	100%	1,663	1.00	1,663		
		Water Heater	1,522	100%	1,522	1.00	1,522		
		Faucet Aerator - Bathroom (IU)	1,507	100%	1,508	1.00	1,508		
		Thermostatic Radiator Valve	1,301	100%	1,301	1.00	1,301		
		Advanced Thermostat	1,104	100%	1,104	1.00	1,104		
		Wall Insulation	234	100%	234	1.00	234		
		Crawl Space Ceiling Insulation	54	100%	54	1.00	54		
		Income Eligible Subtotal			1,299,262	99%	1,290,593	1.00	1,290,593
		IHWAP		Air Sealing	4,802	100%	4,802	1.00	4,802
Custom - Covers and Gap Sealers for AC	7,171			22%	1,593	1.00	1,593		

Program Category	Program Path	Savings Category	Ex Ante Gross Savings (Therms)	Verified Gross RR	Verified Gross Savings (Therms)	NTG	Verified Net Savings (Therms)
IHWAP Subtotal			11,973	53%	6,394	1.00	6,394
Total			1,311,234	99%	1,296,987	1.00	1,296,987

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

The NSG program includes 11 measures, as shown in Table 2-8. The Air Sealing and Showerhead (IU) measures contributed the most savings.

Table 2-8. 2023 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	407,315	100%	407,315	1.00	407,315
		Showerhead (IU)	18,478	100%	18,476	1.00	18,476
		Shower Timer (IU)	5,558	100%	5,558	1.00	5,558
		Faucet Aerator - Bathroom (IU)	3,386	100%	3,387	1.00	3,387
		Pipe Insulation	2,298	141%	3,229	1.00	3,229
		Boiler Tune Up	2,913	100%	2,913	1.00	2,913
		Attic Insulation	2,896	89%	2,581	1.00	2,581
		Faucet Aerator - Kitchen (IU)	1,701	100%	1,701	1.00	1,701
		Covers and Gap Sealers for Room AC	913	100%	912	1.00	912
		Boiler Reset Controls	872	100%	872	1.00	872
		Programmable Thermostat	60	100%	60	1.00	60
Total			446,390	100%	447,004	1.00	447,004

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

2.3 Impact Analysis Findings and Recommendations

2.3.1 Impact Parameter Estimates

Table 2-9 shows the unit therm savings and realization rate findings by measure from the evaluation team’s review. The realization rate is the ratio of the verified savings to the gross ex ante savings. Following Table 2-9 are findings and recommendations, including a discussion of all measures with realization rates more or less than 100 percent. Appendix A provides a description of the impact analysis methodology.

Table 2-9. 2023 MFIE Program Verified Gross Savings Parameters

Measure	Unit Basis	Ex Ante Gross (therms/unit)	Verified Gross (therms/unit)	RR	Data Source(s)
Advanced Thermostat	Unit	Varies	Varies	100%	Illinois TRM†, Section 5.3.16 and PTD*
Air Sealing	Ln Ft	Varies	Varies	100%	Illinois TRM Section 5.6.1, PTD
Attic Insulation	Sq Ft	Varies	Varies	98%	Illinois TRM Section 5.6.5, PTD
Boiler Reset Controls	Unit	Varies	Varies	100%	Illinois TRM Section 4.4.4, PTD
Boiler Tune Up	Unit	Varies	Varies	101%	Illinois TRM Section 4.4.2, PTD
Central Water Heater	Unit	9.49	9.49	100%	Illinois TRM Section 4.3.7, PTD
Covers and Gap Sealers for Room AC	Unit	Varies	Varies	100%	Illinois TRM Section 4.4.38, PTD
Crawl Space Ceiling Insulation	Sq Ft	Varies	Varies	100%	Illinois TRM Section 5.6.3, PTD
Custom - Covers and Gap Sealers for AC	Unit	7170.66	1592.52	22%	Project File Review‡
Faucet Aerator - Bathroom (IU)	Unit	1.69	1.69	100%	Illinois TRM Section 5.4.4, PTD
Faucet Aerator - Kitchen (IU)	Unit	2.82	2.82	100%	Illinois TRM Section 5.4.4, PTD
High Efficiency Boiler	Unit	Varies	Varies	100%	Illinois TRM Section 4.4.10, PTD
High Efficiency Furnace	MBH	Varies	Varies	100%	Illinois TRM Section 4.4.11, PTD
On Demand DHW Control	Unit	Varies	62.70	99%	Illinois TRM Section 4.3.8, PTD
Pipe Insulation	Ln Ft	Varies	Varies	101%	Illinois TRM Section 4.4.14, PTD
Programmable Thermostat	Unit	Varies	Varies	100%	Illinois TRM Section 5.3.11, PTD
Reprogrammable Thermostat	Unit	40.50	40.50	100%	Illinois TRM Section 5.3.11, PTD
Shower Timer (IU)	Unit	3.79	3.79	100%	Illinois TRM Section 5.4.9, PTD
Showerhead (IU)	Unit	12.36	12.36	100%	Illinois TRM Section 5.4.5, PTD
Steam Pipe Averaging Controls	Unit	Varies	Varies	95%	Illinois TRM Section 4.4.36, PTD
Steam Traps	Unit	Varies	Varies	100%	Illinois TRM Section 4.4.16, PTD
Thermostatic Radiator Valve	Unit	36.13	36.13	100%	Illinois TRM Section 5.3.19, PTD

Measure	Unit Basis	Ex Ante Gross (therms/unit)	Verified Gross (therms/unit)	RR	Data Source(s)
Wall Insulation	Sq Ft	Varies	Varies	100%	Illinois TRM Section 5.6.4, PTD
Water Heater	Unit	42.27	42.27	100%	Illinois TRM Section 4.3.1, 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.ilsaq.info/technical-reference-manual.html>.

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

2.3.2 Findings and Recommendations

The evaluation team developed findings and recommendations based on the 2023 evaluation, organized by path type in the following sections. The overall realization rate for the program was 99% for PGL and 100% for NSG, and the findings and recommendations reflect minor changes to overall program savings.

2.3.2.1 Multi-Family Income Eligible

Finding 1. For the Common Areas (CA) Steam Pipe Averaging Controls measure, the ex ante savings used a boiler efficiency of 61.6%, consistent with in-unit existing boilers. The evaluation team used a boiler efficiency of 64.8%, consistent with multifamily low pressure boilers. This change led to a realization rate of 95% for this measure.

Recommendation 1. Use the appropriate boiler efficiency depending on the specific use case, consistent with the Illinois Statewide Technical Reference Manual v11.0 (IL-TRM)¹.

Finding 2. For 28 out of 142 instances for the Attic Insulation with Air Sealing measure, the ex ante savings did not take the minimum value of R-3 for uninsulated assemblies into account in the pre and post R-values. The evaluation team added a minimum value of R-3 to the pre and post R-values in the algorithm, consistent with the IL-TRM. There were four additional measure instances where the evaluation team could not replicate the ex ante savings exactly.

Recommendation 2. Review the savings algorithm and the inputs being used in the savings calculation and ensure these values match the algorithms from the IL-TRM (Section 5.6.5).

Finding 3. For three out of 161 instances for the Boiler Tune Up measure, the ex ante savings did not utilize the same MF Mid-Rise full load hours and efficiency assumptions as other MF Mid-Rise Boiler Tune Up measures. The evaluation team used similar EFLH and efficiencies consistent with the reported building type.

Recommendation 3. Use consistent EFLH and efficiency values consistent with the reported Building Type as per the IL-TRM (Section 4.4.2).

¹ In this report, unless stated otherwise, IL-TRM refers to version 11.0 (v11.0)

Finding 4. For one out of two instances for the Crawl Space Ceiling Insulation measure, the program data did not report Pre and Post R values. The evaluation team back calculated Pre and Post R values to replicate the ex ante savings.

Recommendation 4. Improve data quality and ensure that all measure algorithm inputs are reported in the program tracking data.

Finding 5. For nine out of 81 instances for the Steam Pipe Insulation-Joint MF measure and six out of 29 instances for Steam Pipe Insulation – Fitting-Joint MF measure, the program data did not report pipe size. This value is necessary to properly verify and quantify the savings, which depend on the pipe size and system configuration. The evaluation team was able to back calculate the appropriate steam size values and recreate the ex ante savings.

Recommendation 5. Improve data quality and ensure that all the algorithm inputs, including pipe size and system type are reported in the program data for this measure.

Finding 6. For eight out of 14 instances for the AC Cover and Gap Sealer measure, the program data did not report Number of Floors, which is needed to determine the Deemed Savings, consistent with the IL-TRM. The evaluation team back calculated the Number of Floors to replicate the ex ante savings.

Recommendation 6. Ensure that all the algorithm inputs are reported in the program data.

2.3.2.2 Multi-family IHWAP

Finding 7. For the custom AC Cover and Gap sealer measure, the evaluation team could not replicate the ex ante savings for this measure based on the supplied supplemental data and reference from the IL-TRM. The evaluation team used the supplied project documentation to determine site specific parameters based on Section 5.6.3 of the IL-TRM.

Recommendation 7. Cross-check that site specific parameters are used when determining savings for custom measures.

3. Public Housing Energy Savings Program

3.1 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 included room air conditioner (AC) covers and gap sealing, and boiler tune-ups. Only PGL customers participated in the program in 2023.

The PGL program had 23 participants in 2023, completed 25 projects, and installed 2 measure types, as Table 3-1.

Table 3-1. 2023 PHES Program Volumetric Summary for PGL

Participation	Public Housing Authority
Participants *	23
Installed Projects †	25
Measures Type Installed	2

* 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 3-2 summarizes the installed measure quantities that are the basis for verified energy savings.

Table 3-2. 2023 PHES Program Installed Measure Quantities for PGL

Program Category	Program Path	Measure	Quantity Unit	Installed Quantity
Multi-Family	Public Housing	Covers and Gap Sealers for AC	Unit	220
		Boiler Tune Up	Unit	40

Source: People’s Gas tracking data and Guidehouse evaluation team analysis.

3.2 Program Savings Details

Table 3-3 summarizes the energy savings the PGL PHES program achieved in 2023.

Table 3-3. 2023 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)
Multi-Family	Public Housing	58,052	100%	58,045	1.00	58,045
Total		58,052	100%	58,045	1.00	58,045

* 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 website: <https://www.ilsag.info/evaluator-ntg-recommendations-for-2023/>.

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

3.3 Program Savings by Measure

The PHES program provided two types of measures to PGL customers in 2023, as shown in Table 3-4.

Table 3-4. 2023 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)
Multi-Family	Public Housing	Boiler Tune Up	56,096	100%	56,096	1.00	56,096
		Covers and Gap Sealers for Room AC	1,956	100%	1,949	1.00	1,949
Total			58,052	100%	58,045	1.00	58,045

Source: People's Gas tracking data and Guidehouse team analysis.

3.4 Impact Analysis Findings and Recommendations

3.4.1 Impact Parameter Estimates

Table 3-5 shows the unit therm savings and realization rate findings by measure from the evaluation team’s review. The realization rate is the ratio of the verified savings to the gross ex ante savings. Following Table 3-5 are findings and recommendations, including discussion of all measures with realization rates more or less than 100 percent. Appendix A provides a description of the impact analysis methodology.

Table 3-5. 2023 PHES Program Verified Gross Savings Parameters

Measure	Unit Basis	Ex Ante Gross (therms/unit)	Verified Gross (therms/unit)	RR	Data Source(s)
Boiler Tune Up	Unit	Varies	Varies	100%	Illinois TRM† Section 4.4.2, PTD*
Covers and Gap Sealers for Room AC	Unit	Varies	Varies	100%	Illinois TRM Section 4.4.38, 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.ilsaq.info/technical-reference-manual.html>.

3.4.2 Findings and Recommendations

Finding 8. For two out of three instances for the AC Cover and Gap Sealer measure, the program data did not report Number of Floors, needed to determine the deemed savings, consistent with the IL-TRM. The evaluation team back calculated the number of floors to replicate the ex ante savings.

Recommendation 8. Ensure that all the algorithm inputs are reported in the program data for this measure.

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 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.
- Guidehouse sourced methodologies and assumptions from the 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. 2023 MFIE Program Custom Project Summary – IHWAP

Work Order IDs	Measure Description	Ex Ante Gross Savings (therms)	Verified Gross RR	Verified Gross Savings (therms)	Summary of Adjustment
WO-4955482	AC Cover and Gap Sealer	7,171	22%	1,593	-The evaluation team leveraged the algorithms from Section 5.6.3 of the IL-TRM, and building specific assumptions based on a review of the tracking and supplemental data provided. It was not clear from the tracking data where the differences in savings originated.

Source: Peoples Gas tracking data and evaluation team analysis.

Appendix B. Program Specific Inputs for the Illinois TRC

B.1 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 Table B-1 and Table B-2. They 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. 2023 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	868,790	20	425,384	417,755	417,755
		Pipe Insulation	Ln Ft	188,173	15	280,390	281,169	281,169
		Steam Traps	Unit	5,522	6	189,809	189,809	189,809
		Boiler Tune Up	Unit	4,549	3	118,090	119,523	119,523
		On Demand DHW Control	Unit	1,382	15	81,134	81,134	81,134
		Steam Pipe Averaging Controls	Unit	1,216	20	67,089	63,837	63,837
		High Efficiency Boiler	Unit	129	25	64,089	64,089	64,089
		Showerhead (IU)	Unit	9,563	10	18,614	18,611	18,611
		Covers and Gap Sealers for Room AC	Unit	1,274	5	12,760	12,762	12,762
		Programmable Thermostat	Unit	1,859	16	10,244	10,244	10,244
		Shower Timer	Unit	10,163	2	6,173	6,172	6,172
		Air Sealing	Ln Ft	59,410	20	5,748	5,748	5,748
		Reprogrammable Thermostat	Unit	690	2	4,577	4,577	4,577
		Faucet Aerator - Kitchen (IU)	Unit	7,500	10	3,134	3,134	3,134
		Boiler Reset Controls	Unit	3	16	2,972	2,972	2,972
		Central Water Heater	Unit	176	15	1,671	1,671	1,671
		High Efficiency Furnace	MBH	542	20	1,663	1,663	1,663
		Water Heater	Unit	36	20	1,522	1,522	1,522
		Faucet Aerator - Bathroom (IU)	Unit	5,831	10	1,507	1,508	1,508
		Thermostatic Radiator Valve	Unit	36	15	1,301	1,301	1,301

Program Category	Program Path	Savings Category	Units	Quantity	Effective Useful Life	Ex Ante Gross Savings (Therms)	Verified Gross Savings (Therms)	Verified Net Savings (Therms)
		Advanced Thermostat	Unit	95	11	1,104	1,104	1,104
		Wall Insulation	Sq Ft	8,892	20	234	234	234
		Crawl Space Ceiling Insulation	Sq Ft	2,120	20	54	54	54
	IHWAP	Air Sealing	Ln Ft	25,749	20	5,748	5,748	5,748
		Custom - Covers and Gap Sealers for AC	Unit	40	5	7,171	1,593	1,593
Total or Weighted Average				1,203,740	14.68	1,311,234	1,296,987	1,296,987

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

Table B-2. 2023 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)
		Air Sealing	L Ft	981,112	20	407,315	407,315	407,315
		Showerhead (IU)	Unit	18,133	10	18,478	18,476	18,476
		Shower Timer (IU)	Unit	18,531	2	5,558	5,558	5,558
		Faucet Aerator - Bathroom (IU)	Unit	18,438	10	3,386	3,387	3,387
		Pipe Insulation	L Ft	1,444	15	2,298	3,229	3,229
Multi-Family	Income Eligible	Boiler Tune Up	Unit	27	3	2,913	2,913	2,913
		Attic Insulation	S Ft	7,881	20	2,896	2,581	2,581
		Faucet Aerator - Kitchen (IU)	Unit	8,604	10	1,701	1,701	1,701
		Covers and Gap Sealers for Room AC	Unit	128	5	913	1,055	1,055
		Boiler Reset Controls	Unit	3	16	872	872	872
		Programmable Thermostat	Unit	12	16	60	60	60
Total or Weighted Average				1,054,313	19.1	446,390	447,004	447,004

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

B.2 Public Housing Energy Savings Program

Table B-3 shows 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-3 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. 2023 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	Boiler Tune Up	Unit	40	3	56,096	56,096	56,096
		Covers and Gap Sealers for Room AC	Unit	220	5	1,956	1,949	1,949
Total or Weighted Average				260	3.1	58,052	58,045	58,045

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