

Income Eligible Multi-Family and Public Housing Impact Evaluation Report

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

Prepared for:

Peoples Gas and North Shore Gas

FINAL

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Introduction

This report presents the results of the impact evaluation of the Peoples Gas (PGL) and North Shore Gas (NSG) 2024 Income Eligible Multi-Family (MFIE) program and the Public Housing Energy Savings (PHES) program. 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.

Income Eligible Multi-Family Program

Program Description

The MFIE 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 (Income Eligible) path, jointly implemented with ComEd.
- The Income Eligible Illinois Home Weatherization Assistance Program (IHWAP) path, jointly implemented with ComEd and Peoples 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 ‡	25	4	27

* 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 for PGL.

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 & CA)	Unit	4,674
		Showerhead (IU & CA)	Unit	4,271
		Wall Insulation	Unit	3,934
		Faucet Aerator - Bathroom (IU & CA)	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	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 Table 3.

Table 3. 2024 MFIE Program Volumetric Summary for NSG

Participation	Income Eligible
Participants *	16
Installed Projects †	780
Measure Types Installed ‡	12

* 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 for NSG. Table 4.

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
		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.

MFIE 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%	1,786,008	1.00	N/A	1,786,008
	IHWAP	5,804	100%	5,804	1.00	N/A	5,804
Total		1,790,976	100%	1,791,812	1.00	N/A	1,791,812

* 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%	82,212	1.00	N/A	82,212

* 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.

MFIE Program Savings by Measure

The PGL MFIE program includes 27 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 Path	Savings Category	Ex Ante Gross Savings (Therms)	Verified Gross RR*	Verified Gross Savings (Therms)	NTG†	Verified Net Savings (Therms)	
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%	52,799	1.00	52,799	
	High Efficiency Boiler	24,306	100%	24,306	1.00	24,306	
	Covers and Gap Sealers for Room AC	22,986	105%	24,068	1.00	24,068	
	Shower Timer (IU)	22,783	100%	22,783	1.00	22,783	
	Air Sealing	18,956	100%	18,956	1.00	18,956	
	Faucet Aerator - Kitchen (IU)	13,220	100%	13,220	1.00	13,220	
	Programmable Thermostat	10,976	100%	10,976	1.00	10,976	
	Faucet Aerator - Bathroom (IU)	5,319	100%	5,319	1.00	5,319	
	Boiler Reset Controls	4,381	100%	4,381	1.00	4,381	
	DHW Tune Up	3,722	100%	3,722	1.00	3,722	
	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	
	Income Eligible Subtotal		1,785,173	100%	1,786,008	1.00	1,786,008
	IHWAP	Custom	5,400	100%	5,400	1.00	5,400
Showerhead (IU)		321	100%	321	1.00	321	

Program Path	Savings Category	Ex Ante Gross Savings (Therms)	Verified Gross RR*	Verified Gross Savings (Therms)	NTG†	Verified Net Savings (Therms)
	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%	1,791,812	1.00	1,791,812

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

† The RR for Steam Traps and Steam Pipe Averaging Controls appears to be 100%, but ex ante and verified savings differ slightly due to engineering adjustments that are discussed under Findings 1 and 3.

‡ 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.

The NSG MFIE program includes 12 measures, as shown in Table 8. Air sealing contributed the most savings.

Table 8. 2024 MFIE Program Annual Energy Savings by Measure for NSG

Program Path	Savings Category	Ex Ante Gross Savings (Therms)	Verified Gross RR*	Verified Gross Savings (Therms)	NTG†	Verified Net Savings (Therms)
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%	82,212	1.00	82,212

* 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.

MFIE Program Impact Analysis Findings and Recommendations

Impact Parameter Estimates

Table 9 shows the unit per 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 a 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 (CA) - PGL MFIE	Unit	6.77	6.77	100%	Illinois TRM, v12.0†, Section 4.3.2 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*

Measure	Unit Basis	Ex Ante Gross (therms/unit)	Verified Gross (therms/unit)	Realization Rate	Data Source(s)
Faucet Aerator - Kitchen (CA) - PGL MFIE	Unit	8.15	8.15	100%	Illinois TRM, v12.0†, Section 4.3.2 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 (CA) - PGL MFIE	Unit	21.63	21.63	100%	Illinois TRM, v12.0†, Section 4.3.3 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>.

‡ 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.

MFIE Program Findings and Recommendations

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

Income Eligible Path

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 multi-family 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

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. The evaluation team used the Number of Floors in the program data to calculate verified savings.

Recommendation 2. Utilize the Number of Floors from the program data to determine deemed savings per unit.

Finding 3. For two Work Order IDs (WO-6098648 and WO-6109718), of the Steam Trap measure, 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. For Multifamily Space Heating Low Pressure Steam Systems² 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 Faucet Aerator and Showerhead measures, the tracking data does not specify the location of the installed equipment.

Recommendation 4. Consider enhancing program data collection to distinguish Faucet Aerator and Showerhead installation locations in Multifamily buildings as either in-unit or common areas.

¹ In this report, unless stated otherwise, IL-TRM refers to version 12.0 (v12.0).

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.

Finding 5. For Work Order ID WO-6256746, the program data reported a negative savings and incentives amount to cancel savings from a previously reported project that was not completed. The evaluation team did not change the reported savings, consistent with the program data.

Recommendation 5. Ensure there are additional notes in the tracking system where negative savings are reported in the program data.

IHWAP Path

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 for PGL.

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 for NSG.

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.

PHES 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.

PHES 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/>.

Source: Evaluation team analysis.

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

PHES Impact Parameter Estimates

Table 18 shows the unit per 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 A 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>.

PHES 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 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 & CA)	Unit	4,271	10.0	52,799	52,799	52,799
		High Efficiency Boiler	MBH	12	25.0	24,306	24,306	24,306
		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	22,783	22,783
		Air Sealing	Ln Ft	15,762	20.0	18,956	18,956	18,956
		Faucet Aerator - Kitchen (IU & CA)	Unit	4,674	10.0	13,220	13,220	13,220
		Programmable Thermostat	Unit	271	16.0	10,976	10,976	10,976
		Faucet Aerator - Bathroom (IU & CA)	Unit	3,136	10.0	5,319	5,319	5,319
		Boiler Reset Controls	Unit	5	16.0	4,381	4,381	4,381
		DHW Tune Up	Unit	49	3.0	3,722	3,722	3,722
		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

Program Category	Program Path	Savings Category	Units	Quantity	Effective Useful Life	Ex Ante Gross Savings (Therms)	Verified Gross Savings (Therms)	Verified Net Savings (Therms)
		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
	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	1,791,812	1,791,812

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

Program Category	Program Path	Savings Category	Units	Quantity	Effective Useful Life	Ex Ante Gross Savings (Therms)	Verified Gross Savings (Therms)	Verified Net Savings (Therms)
		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
Total or Weighted Average					17.6	82,212	82,212	82,212

Source: Evaluation team analysis.

Public Housing Energy Savings 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 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		

Program Category	Program Path	Savings Category	Units	Quantity	Effective Useful Life	Ex Ante Gross Savings (Therms)	Verified Gross Savings (Therms)	Verified Net Savings (Therms)
Total or Weighted Average					4.2	58,846	58,846	58,846

Source: Evaluation team analysis.

Table B-2. 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.