

Single Family Income Eligible Impact Evaluation Report

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

Prepared for:

**Peoples Gas and North Shore Gas
FINAL**

May 15, 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 Single Family Income Eligible (SFIE) programs. It presents a summary of the energy impacts for the total program and broken out by relevant measure and program structure details. The appendix presents the impact analysis methodology. Program year 2024 covers January 1, 2024 through December 31, 2024.

Program Description

The SFIE program offers installation of energy efficiency measures for qualifying homeowners with a household income at or below 80% of the area median income (AMI). Eligible measures include programmable and advanced thermostats, water efficiency devices, weatherization measures, pipe insulation, heating and cooling equipment, and custom energy-saving measures for eligible properties. The program also offers installation of health and safety measures, including vents, electrical repairs, and asbestos and mold remediation.

The SFIE program has three paths:

- The SFIE Retrofit path offers direct install products and no-cost weatherization services for customers. The PGL and NSG Retrofit path is delivered jointly with ComEd through approved agencies or partners (e.g., Chicago Bungalow Association) that perform outreach and intake.
- The Single Family – Illinois Home Weatherization Assistance Program (IHWAP) path is administered by ComEd, PGL, NSG, and Nicor Gas. Weatherization services are provided to low-income residents through local community action agencies or not for profit agencies.
- The Home Energy Assessment (HEA) path is administered by ComEd, Nicor Gas, PGL, and NSG. The HEA path offers energy-saving products installed in homes at no-cost to the customer. Homeowners can reduce their energy and water use with the installation of products available to owners of single-family homes, two-flats, and individually metered condos and townhomes. Renters are also eligible with permission from their landlords.

The program had 2,574 PGL participants in 2024 and completed 2,598 projects, as shown in Table 1.

Table 1. 2024 Volumetric Summary for PGL

Participation	HEA	IHWAP	Retrofit	Total
Participants *	2,205	61	308	2,574
Installed Projects †	2,228	61	309	2,598

* Participants are defined as unique site addresses.

† Installed Projects are defined as unique gas account numbers.

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 Installed Measure Quantities for PGL

Program Path	Measure	Quantity Unit	Installed Quantity
HEA	Advanced Thermostat (DI) - Blended	Each	12
	Advanced Thermostat (DI) - Manual	Each	303
	Advanced Thermostat (DI) - Programmable	Each	300
	Advanced Thermostat (VA) - Programmable	Each	2
	Air Handler Filter Replacement (VA)	Each	1,584
	Air Sealing - Door Sweep (DI)	Each	1,676
	Air Sealing - Door Sweep (VA)	Each	43
	Bathroom Aerator SF (DI)	Each	550
	Bathroom Aerator SF (VA)	Each	24
	Boiler Pipe Insulation	Ln. ft.	210
	DHW Pipe Insulation	Ln. ft.	3,022
	Handheld Showerhead (DI) SF	Each	756
	Kitchen Aerator SF (DI)	Each	526
	Kitchen Aerator SF (VA)	Each	12
	Programmable Thermostat (DI)	Each	235
	Re-Program Thermostat (DI)	Each	156
	Shower Flow Reducer (DI) SF	Each	110
	Showerhead (DI) MH	Each	2
	Showerhead (DI) SF	Each	486
	Showerhead (VA) SF	Each	22
IHWAP	Advanced Thermostat (DI) - Manual	Each	14
	Advanced Thermostat (DI) - Programmable	Each	2
	Air Sealing	Project	58
	Air Sealing - Door Sweep (DI)	Each	3
	Air Sealing - Sealing Tape (DI)	Each	24
	Attic Insulation	Sq. ft.	34,556
	Basement/Sidewall Insulation	Sq. ft.	519
	Bathroom Aerator SF (DI)	Each	17
	Boilers, >95% AFUE <300 MBH	Each	10
	DHW Pipe Insulation	Ln. ft.	622
	Duct Sealing	Each	2
	Floor Insulation Above Crawlspace	Sq. ft.	5,879
	Furnace Tune-Up	Each	3
	Furnace, >95% AFUE	Each	34
	Handheld Showerhead (DI) SF	Each	8
	Kitchen Aerator SF (DI)	Each	3
	Programmable Thermostat (DI)	Each	12
	Rim Joist Insulation	Sq. ft.	612
	Showerhead (DI) SF	Each	10
	Storage Water Heater, >0.67 EF	Each	26
Wall Insulation SF	Sq. ft.	49,833	
Retrofit	Advanced Thermostat (DI) - Manual	Each	29
	Advanced Thermostat (DI) - Programmable	Each	49
	Air Sealing	Project	122
	Air Sealing - Door Sweep (DI)	Each	401
	Air Sealing - Gasket (DI)	Each	290

Program Path	Measure	Quantity Unit	Installed Quantity
	Air Sealing - Sealing Tape (DI)	Each	73,026
	Air Sealing - Weatherstripping (DI)	Each	6,369
	Air Sealing - Window Film (DI)	Each	24
	Attic Insulation	Sq. ft.	219,689
	Basement/Sidewall Insulation	Sq. ft.	7,271
	Bathroom Aerator SF (DI)	Each	5
	Boiler Tune-Up	Each	29
	Boilers, >95% AFUE <300 MBH	Each	10
	DHW Pipe Insulation	Ln. ft.	961
	Duct Sealing	Each	40
	Duct Sealing - Modified Blower Door Subtraction	Each	5
	Floor Insulation Above Crawlspace	Sq. ft.	3,069
	Furnace Tune-Up	Each	132
	Furnace, >95% AFUE	Each	15
	Handheld Showerhead (DI) SF	Each	2
	Kitchen Aerator SF (DI)	Each	1
	Programmable Thermostat (DI)	Each	54
	Rim Joist Insulation	Sq. ft.	1,237
	Showerhead (DI) SF	Each	9
	Storage Water Heater, >0.67 EF	Each	12
	Wall Insulation SF	Sq. ft.	305,281

Source: Peoples Gas tracking data and evaluation team analysis.

The program had 187 NSG participants in 2024 and completed 190 projects, as shown in Table 3.

Table 3. 2024 Volumetric Summary for NSG

Participation	HEA	Retrofit	Total
Participants *	166	21	187
Installed Projects †	169	21	190

* Participants are defined as unique site addresses.

† Installed Projects are defined as unique gas account numbers.

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

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

Table 4. 2024 Installed Measure Quantities for NSG

Program Path	Measure	Quantity Unit	Installed Quantity
HEA	Advanced Thermostat (DI) - Manual	Each	23
	Advanced Thermostat (DI) - Programmable	Each	21
	Air Handler Filter Replacement (VA)	Each	83
	Air Sealing - Door Sweep (DI)	Each	81
	Air Sealing - Door Sweep (VA)	Each	4
	Bathroom Aerator SF (DI)	Each	80
	Bathroom Aerator SF (VA)	Each	11
	Boiler Pipe Insulation	Ln. ft.	18
	DHW Pipe Insulation	Ln. ft.	94

Program Path	Measure	Quantity Unit	Installed Quantity
Retrofit	Handheld Showerhead (DI) SF	Each	21
	Kitchen Aerator SF (DI)	Each	28
	Kitchen Aerator SF (VA)	Each	3
	Programmable Thermostat (DI)	Each	11
	Re-Program Thermostat (DI)	Each	11
	Shower Flow Reducer (DI) SF	Each	8
	Showerhead (DI) SF	Each	28
	Showerhead (VA) SF	Each	3
	Advanced Thermostat (DI) - Manual	Each	2
	Advanced Thermostat (DI) - Programmable	Each	1
	Air Sealing	Project	19
	Attic Insulation	Sq. ft.	19,213
	Basement/Sidewall Insulation	Sq. ft.	2,569
	DHW Pipe Insulation	Ln. ft.	24
	Duct Sealing	Each	2
	Duct Sealing - Modified Blower Door Subtraction	Each	6
	Furnace, >95% AFUE	Each	5
	Handheld Showerhead (DI) SF	Each	1
	Rim Joist Insulation	Sq. ft.	1,438
	Storage Water Heater, >0.67 EF	Each	2
Wall Insulation SF	Sq. ft.	2,482	

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

Program Savings Detail

Table 5 summarizes the energy savings the PGL SFIE Program achieved by path in 2024.

Table 5. 2024 Annual Energy Savings Summary for PGL

Program Path	Ex Ante Gross Savings (Therms)	Verified Gross RR*	Verified Gross Savings (Therms)	NTG†	Verified Net Savings (Therms)
HEA	129,531	1.00	129,522	1.00	129,522
IHWAP	40,587	1.00	40,590	1.00	40,590
Retrofit	179,401	1.00	179,043	1.00	179,043
Total	349,519	1.00	349,154	1.00	349,154

* 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 6 summarizes the energy savings the NSG SFIE Program achieved by path in 2024.

Table 6. 2024 Annual Energy Savings Summary for NSG

Program Path	Ex Ante Gross Savings (Therms)	Verified Gross RR*	Verified Gross Savings (Therms)	NTG†	Verified Net Savings (Therms)
HEA	7,211	1.00	7,209	1.00	7,209
Retrofits	10,133	1.00	10,135	1.00	10,135
Total	17,344	1.00	17,345	1.00	17,345

Source: Evaluation team analysis.

Program Savings by Measure

The PGL program includes 20 measures, as shown in Table 7. Attic Insulation and Air Sealing contribute the most savings.

Table 7. 2024 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)
HEA	Advanced Thermostat (DI) - Blended	1,025	1.00	1,025	1.00	1,025
	Advanced Thermostat (DI) - Manual	30,935	1.00	30,935	1.00	30,935
	Advanced Thermostat (DI) - Programmable	21,190	1.00	21,190	1.00	21,190
	Advanced Thermostat (VA) - Programmable	71.36	1.00	71.36	1.00	71.36
	Air Handler Filter Replacement (VA)	12,531	1.00	12,531	1.00	12,531
	Air Sealing - Door Sweep (DI)	12,242	1.00	12,242	1.00	12,242
	Air Sealing - Door Sweep (VA)	214	1.00	214	1.00	214
	Bathroom Aerator SF (DI)	471	0.98	463	1.00	463
	Bathroom Aerator SF (VA)	7.70	1.00	7.70	1.00	7.70
	Boiler Pipe Insulation	91.76	0.99	90.42	1.00	90.42
	DHW Pipe Insulation	5,712	1.00	5,712	1.00	5,712
	Handheld Showerhead (DI) SF	5,676	1.00	5,671	1.00	5,671
	Kitchen Aerator SF (DI)	4,108	1.00	4,116	1.00	4,116
	Kitchen Aerator SF (VA)	35.37	1.00	35.37	1.00	35.37
	Programmable Thermostat (DI)	18,424	1.00	18,424	1.00	18,424
	Re-Program Thermostat (DI)	11,523	1.00	11,523	1.00	11,523
	Shower Flow Reducer (DI) SF	1,018	1.00	1,018	1.00	1,018
	Showerhead (DI) MH	43.96	1.00	43.96	1.00	43.96
	Showerhead (DI) SF	4,135	1.00	4,133	1.00	4,133
	Showerhead (VA) SF	77.43	1.00	77.43	1.00	77.43
IHWAP	Advanced Thermostat (DI) - Manual	1,333	1.00	1,333	1.00	1,333
	Advanced Thermostat (DI) - Programmable	143	1.00	143	1.00	143
	Air Sealing	5,755	1.00	5,755	1.00	5,755
	Air Sealing - Door Sweep (DI)	21.91	1.00	21.91	1.00	21.91
	Air Sealing - Sealing Tape (DI)	9.98	1.00	9.98	1.00	9.98
	Attic Insulation	8,318	1.00	8,318	1.00	8,318
	Basement/Sidewall Insulation	37.56	1.00	37.56	1.00	37.56
	Bathroom Aerator SF (DI)	17.05	1.00	17.05	1.00	17.05
	Boilers, >95% AFUE <300 MBH	6,000	0.97	5,802	1.00	5,802
	DHW Pipe Insulation	1,254	1.00	1,254	1.00	1,254
	Duct Sealing	53.78	1.00	53.78	1.00	53.78
	Floor Insulation Above Crawlspace	851	1.00	851	1.00	851
	Furnace Tune-Up	96.10	1.00	96.10	1.00	96.10
	Furnace, >95% AFUE	9,337	1.00	9,337	1.00	9,337
	Handheld Showerhead (DI) SF	21.39	1.00	21.39	1.00	21.39
	Kitchen Aerator SF (DI)	39.16	1.00	39.16	1.00	39.16
	Programmable Thermostat (DI)	868	1.00	868	1.00	868
	Rim Joist Insulation	59.76	1.00	59.76	1.00	59.76

Program Path	Savings Category	Ex Ante Gross Savings (Therms)	Verified Gross RR*	Verified Gross Savings (Therms)	NTG†	Verified Net Savings (Therms)	
Retrofit	Showerhead (DI) SF	28.51	1.00	28.51	1.00	28.51	
	Storage Water Heater, >0.67 EF	1,214	1.17	1,415	1.00	1,415	
	Wall Insulation SF	5,129	1.00	5,129	1.00	5,129	
	Advanced Thermostat (DI) - Manual	2,817	1.00	2,817	1.00	2,817	
	Advanced Thermostat (DI) - Programmable	3,282	1.00	3,282	1.00	3,282	
	Air Sealing	25,788	1.00	25,788	1.00	25,788	
	Air Sealing - Door Sweep (DI)	2,929	1.00	2,929	1.00	2,929	
	Air Sealing - Gasket (DI)	109	1.00	109	1.00	109	
	Air Sealing - Sealing Tape (DI)	30,379	1.00	30,379	1.00	30,379	
	Air Sealing - Weatherstripping (DI)	3,108	1.00	3,108	1.00	3,108	
	Air Sealing - Window Film (DI)	3.51	1.00	3.51	1.00	3.51	
	Attic Insulation	46,953	1.00	46,953	1.00	46,953	
	Basement/Sidewall Insulation	750	0.99	746	1.00	746	
	Bathroom Aerator SF (DI)	4.96	1.00	4.96	1.00	4.96	
	Boiler Tune-Up	1,424	0.85	1,218	1.00	1,218	
	Boilers, >95% AFUE <300 MBH	1,892	0.89	1,674	1.00	1,674	
	DHW Pipe Insulation	1,938	1.00	1,938	1.00	1,938	
	Duct Sealing	6,017	1.00	6,017	1.00	6,017	
	Duct Sealing - Modified Blower Door Subtraction	849	1.10	930	1.00	930	
	Floor Insulation Above Crawlspace	407	1.00	407	1.00	407	
	Furnace Tune-Up	4,723	1.00	4,723	1.00	4,723	
	Furnace, >95% AFUE	2,559	1.00	2,559	1.00	2,559	
	Handheld Showerhead (DI) SF	6.08	1.00	6.08	1.00	6.08	
	Kitchen Aerator SF (DI)	9.11	1.00	9.11	1.00	9.11	
	Programmable Thermostat (DI)	3,889	1.00	3,889	1.00	3,889	
	Rim Joist Insulation	146	1.00	146	1.00	146	
	Showerhead (DI) SF	28.42	1.00	28.42	1.00	28.42	
	Storage Water Heater, >0.67 EF	327	0.97	317	1.00	317	
	Wall Insulation SF	39,062	1.00	39,062	1.00	39,062	
	Total		349,519	1.00	349,154	1.00	349,154

* 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 program includes 16 measures, as shown in Table 8. Advanced Thermostats and Attic Insulation contributed the most savings.

Table 8. 2024 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)
HEA	Advanced Thermostat (DI) - Manual	2,556	1.00	2,556	1.00	2,556
	Advanced Thermostat (DI) - Programmable	1,356	1.00	1,356	1.00	1,356

Program Path	Savings Category	Ex Ante Gross Savings (Therms)	Verified Gross RR*	Verified Gross Savings (Therms)	NTG†	Verified Net Savings (Therms)
	Air Handler Filter Replacement (VA)	658	1.00	658	1.00	658
	Air Sealing - Door Sweep (DI)	592	1.00	592	1.00	592
	Air Sealing - Door Sweep (VA)	19.87	1.00	19.87	1.00	19.87
	Bathroom Aerator SF (DI)	79.78	1.00	79.44	1.00	79.44
	Bathroom Aerator SF (VA)	3.53	1.00	3.53	1.00	3.53
	Boiler Pipe Insulation	7.77	1.00	7.77	1.00	7.77
	DHW Pipe Insulation	170	1.00	170	1.00	170
	Handheld Showerhead (DI) SF	232	0.99	231	1.00	231
	Kitchen Aerator SF (DI)	231	1.00	231	1.00	231
	Kitchen Aerator SF (VA)	8.84	1.00	8.84	1.00	8.84
	Programmable Thermostat (DI)	494	1.00	494	1.00	494
	Re-Program Thermostat (DI)	498	1.00	498	1.00	498
	Shower Flow Reducer (DI) SF	47.62	1.00	47.62	1.00	47.62
	Showerhead (DI) SF	245	1.00	245	1.00	245
	Showerhead (VA) SF	10.56	1.00	10.56	1.00	10.56
	Advanced Thermostat (DI) - Manual	103	1.00	103	1.00	103
	Advanced Thermostat (DI) - Programmable	71.36	1.00	71.36	1.00	71.36
	Air Sealing	2,700	1.00	2,700	1.00	2,700
	Attic Insulation	4,722	1.00	4,722	1.00	4,722
	Basement/Sidewall Insulation	639	1.03	658	1.00	658
	DHW Pipe Insulation	48.38	1.00	48.38	1.00	48.38
	Duct Sealing	48.47	1.00	48.47	1.00	48.47
	Duct Sealing - Modified Blower Door Subtraction	483	1.01	487	1.00	487
	Furnace, >95% AFUE	652	0.96	626	1.00	626
	Handheld Showerhead (DI) SF	2.38	1.00	2.38	1.00	2.38
	Rim Joist Insulation	231	1.00	231	1.00	231
	Storage Water Heater, >0.67 EF	74.34	1.08	80.23	1.00	80.23
	Wall Insulation SF	358	1.00	358	1.00	358
Total		17,344	1.00	17,345	1.00	17,345

Source: Evaluation team analysis.

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 discussion of all measures with realization rates above or below 100 percent. Appendix 1 provides a description of the impact analysis methodology.

Table 9. Verified Gross Savings Parameters

Measure	Unit Basis	Ex Ante Gross (therms/unit)	Verified Gross (therms/unit)	Realization Rate	TRM Section
Advanced Thermostat (DI) - Blended	Each	85.43	85.43	100%	IL TRM v12.0, Section 5.3.16
Advanced Thermostat (DI) - Manual	Each	101.73	101.73	100%	IL TRM v12.0, Section 5.3.16
Advanced Thermostat (DI) - Programmable	Each	69.82	69.82	100%	IL TRM v12.0, Section 5.3.16
Advanced Thermostat (VA) - Programmable	Each	35.68	35.68	100%	IL TRM v12.0, Section 5.3.16
Air Handler Filter Replacement (VA)	Each	7.91	7.91	100%	IL TRM v12.0, Section 5.3.10
Air Sealing	Project	172.07	172.07	100%	IL TRM v12.0, Section 5.6.1
Air Sealing - Door Sweep (DI)	Each	7.30	7.30	100%	IL TRM v12.0, Section 5.6.1
Air Sealing - Door Sweep (VA)	Each	4.97	4.97	100%	IL TRM v12.0, Section 5.6.1
Air Sealing - Gasket (DI)	Each	0.38	0.38	100%	IL TRM v12.0, Section 5.6.1
Air Sealing - Sealing Tape (DI)	Each	0.42	0.42	100%	IL TRM v12.0, Section 5.6.1
Air Sealing - Weatherstripping (DI)	Each	0.49	0.49	100%	IL TRM v12.0, Section 5.6.1
Air Sealing - Window Film (DI)	Each	0.15	0.15	100%	IL TRM v12.0, Section 5.6.1
Attic Insulation	Sq. ft.	0.22	0.22	100%	IL TRM v12.0, Section 5.6.5
Basement/Sidewall Insulation	Sq. ft.	0.14	0.14	101%	IL TRM v12.0, Section 5.6.2
Bathroom Aerator SF (DI)	Each	0.88	0.87	99%	IL TRM v12.0, Section 5.4.4
Bathroom Aerator SF (VA)	Each	0.32	0.32	100%	IL TRM v12.0, Section 5.4.4
Boiler Pipe Insulation	Ln. ft.	0.44	0.43	99%	IL TRM v12.0, Section 5.3.2
Boiler Tune-Up	Each	49.12	41.99	85%	IL TRM v12.0, Section 4.4.2
Boilers, >95% AFUE <300 MBH	Each	394.60	373.84	95%	IL TRM v12.0, Section 5.3.6
DHW Pipe Insulation	Ln. ft.	1.93	1.93	100%	IL TRM v12.0, Section 5.4.1
Duct Sealing	Each	139.08	139.08	100%	IL TRM v12.0, Section 5.3.4
Duct Sealing - Modified Blower Door Subtraction	Each	121.12	128.83	106%	IL TRM v12.0, Section 5.3.4
Floor Insulation Above Crawlspace	Sq. ft.	0.14	0.14	100%	IL TRM v12.0, Section 5.6.3
Furnace Tune-Up	Each	35.69	35.69	100%	IL TRM v12.0, Section 5.3.13
Furnace, >95% AFUE	Each	232.38	231.88	100%	IL TRM v12.0, Section 5.3.7
Handheld Showerhead (DI) SF	Each	7.54	7.53	100%	IL TRM v12.0, Section 5.4.5
Kitchen Aerator SF (DI)	Each	7.86	7.88	100%	IL TRM v12.0, Section 5.4.4
Kitchen Aerator SF (VA)	Each	2.95	2.95	100%	IL TRM v12.0, Section 5.4.4
Programmable Thermostat (DI)	Each	75.88	75.88	100%	IL TRM v12.0, Section 5.3.11
Re-Program Thermostat (DI)	Each	71.98	71.98	100%	IL TRM v12.0, Section 5.3.11

Measure	Unit Basis	Ex Ante Gross (therms/unit)	Verified Gross (therms/unit)	Realization Rate	TRM Section
Rim Joist Insulation	Sq. ft.	0.13	0.13	100%	IL TRM v12.0, Section 5.6.6
Shower Flow Reducer (DI) SF	Each	9.03	9.03	100%	IL TRM v12.0, Section 5.4.5
Showerhead (DI) MH	Each	21.98	21.98	100%	IL TRM v12.0, Section 5.4.5
Showerhead (DI) SF	Each	8.33	8.32	100%	IL TRM v12.0, Section 5.4.5
Showerhead (VA) SF	Each	3.52	3.52	100%	IL TRM v12.0, Section 5.4.5
Storage Water Heater, >0.67 EF	Each	40.39	45.30	112%	IL TRM v12.0, Section 5.4.2
Wall Insulation SF	Sq. ft.	0.12	0.12	100%	IL TRM v12.0, Section 5.6.4

* 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>.

Source: Evaluation team analysis.

Findings and Recommendations

Finding 1. The tracking data had a value of zero for both Existing Insulation R-Value Above & Below Grade columns for Basement Sidewall measures. When the evaluation team compared the values in ComEd’s data, they did not correspond to PG/NSG’s data. The team was able to reference ComEd’s data using project IDs to determine the existing values, except for the listed measure which had an RR between 93%-118%, MEA-2023.12.19-629593, MEA-2024.04.02-670581, MEA-2023.11.21-611188, MEA-2024.03.20-666273, MEA-2023.12.11-623660, MEA-2024.06.11-721141, MEA-2024.10.17-789048.

Recommendation 1. Ensure the tracking data includes Existing Insulation R-Value Above Grade and Below Grade used to calculate ex ante savings.

Recommendation 2. Ensure the utility data provided for evaluation are always consistent with the implementation contractor database or calculators to avoid sending supplemental data to substantiate the ex ante savings in the course of evaluation.

Finding 2. Two Bathroom Aerator (DI) measures (MEA-2024.05.15-707479, MEA-2024.05.07-697720) had a realization rate of 27%. The evaluation team cross-referenced the tracking data for ComEd’s SF program and found that PG/NSG’s household occupancy, which was 0 for all hot water measures, did not correspond to ComEd’s data. The evaluation team used the household occupancy from ComEd’s data as savings input. However, the two measures listed could not be found in ComEd’s data, so the team used the IL TRM default 2.56. This was a mid-year finding.

Recommendation 3. Ensure the tracking data includes the household occupancy used to calculate ex ante savings.

Finding 3. Storage Water Heater measures had an RR between 37%-256%. The evaluation team assumed this was caused by the zero-household occupancy in PG/NSG’s tracking data, rather than the actual value used to calculate the ex ante therm savings. The team used IL TRM v12 default household value 2.56 since the project IDs were not found in ComEd’s tracking data. This was a mid-year finding.

Recommendation 4. Ensure the tracking data includes the household occupancy used to calculate ex ante savings.

Finding 4. The evaluation team found one Boiler Pipe Insulation measure (MEA-2024.02.23-655175) with an RR of 33%. The evaluation team referenced the SFHU Savings Calculator,

which includes a table of deemed therm savings per foot of insulation and varies by climate zone and whether it's directly or virtually installed. The tracking data for the listed measure specified it was from a virtual program, so the team referenced it as such.

Recommendation 5. Ensure ex ante savings are using the updated deemed savings table found in the 2024 SHFU Savings Calculator.

Finding 5. Measure RR varied for Boiler Tune-up, Boilers >95% AFUE, and Furnace >95% AFUE. The evaluation team cross-referenced ComEd's tracking data and found that the Capacity in PG/NSG's tracking data corresponded to "Existing Heating System Capacity" in ComEd's data. However, the savings calculator references "Installed Measure Capacity" as the capacity input for these measure types. This caused realization rates to vary between 20%-776%. The evaluation team was able to reference project IDs for 35/53 furnace measures, and Boiler >95% AFUE savings using supplemental data provided.

Recommendation 6. Ensure the tracking data includes Installed Measure Capacity for HVAC Boiler and Furnace measures.

Finding 6. The evaluation team found that "AFUEeff" in PG/NSG's tracking data did not correspond to "Post-Installation Efficiency" in ComEd's data for Furnace >95% AFUE. The team referenced project IDs for most measures and used supplemental data to verify savings..

Recommendation 7. Ensure the "AFUEeff" in the tracking data is referencing Post-Installation Efficiency, not Existing Heating AFUE.

Finding 7. Four Duct Sealing – Modified Blower Door Subtraction had an RR between 113%-121%. The evaluation team was unable to find nSystem in the tracking data and used the IL TRM default 0.7. (MEA-2024.04.10-682531, MEA-2024.04.07-681123, MEA-2024.04.10-682533, MEA-2024.08.19-760959)

Recommendation 8. Ensure the tracking data includes the nSystem in the tracking data if the IL TRM default value is not used.

Appendix A. Impact Analysis Methodology

The evaluation team determined the verified gross for each program measure by the following methodology:

- Reviewing the savings algorithm inputs in the measure workbook with the IL TRM v12 and IL TRM Errata, when applicable.
- Referencing Resource Innovation's SFHU Savings Calculator to validate the savings algorithm was applied correctly.
- Cross-checking ComEd's 2024 year-end data to validate missing data.

Appendix B. Program Specific Inputs for the Illinois TRC

Table B-1 and Table B-2 show the Total Resource Cost (TRC) cost-effectiveness analysis inputs available at the time of producing this impact evaluation report. Currently, additional required cost data (e.g., measure costs, program level incentive, and non-incentive costs) are not included in this table and will be provided to the evaluation team later. Guidehouse will include annual and lifetime water savings and greenhouse gas reductions in the end of year summary report.

Table B-1. Verified Cost Effectiveness Inputs – PGL

Program Path	Savings Category	DAC Project	UnitsQuantity	Effective Useful Life	Early Replacement Flag†	Verified Gross Annual Water Savings (Gallons)	Ex Ante Gross Savings (Therms)	Verified Gross Savings (Therms)	Verified Net Savings (Therms)
HEA	Advanced Thermostat (DI) - Blended	FALSE	Each 12	11.0	NO	0	1,025	1,025	1,025
	Advanced Thermostat (DI) - Manual	FALSE	Each 303	11.0	NO	0	30,935	30,935	30,935
	Advanced Thermostat (DI) - Programmable	FALSE	Each 300	11.0	NO	0	21,190	21,190	21,190
	Advanced Thermostat (VA) - Programmable	FALSE	Each 2	11.0	NO	0	71.36	71.36	71.36
	Air Handler Filter Replacement (VA)	FALSE	Each 1584	3.0	NO	0	12,531	12,531	12,531
	Air Sealing - Door Sweep (DI)	FALSE	Each 1676	20.0	NO	0	12,242	12,242	12,242
	Air Sealing - Door Sweep (VA)	FALSE	Each 43	20.0	NO	0	214	214	214
	Bathroom Aerator SF (DI)	FALSE	Each 550	10.0	NO	121,903	471	463	463
	Bathroom Aerator SF (VA)	FALSE	Each 24	10.0	NO	2,447	7.70	7.70	7.70
	Boiler Pipe Insulation	FALSE	Ln. ft. 210	15.0	NO	0	91.76	90.42	90.42
	DHW Pipe Insulation	FALSE	Ln. ft. 3022	15.0	NO	0	5,712	5,712	5,712
	Handheld Showerhead (DI) SF	FALSE	Each 756	10.0	NO	340,594	5,676	5,671	5,671
	Kitchen Aerator SF (DI)	FALSE	Each 526	10.0	NO	915,687	4,108	4,116	4,116
	Kitchen Aerator SF (VA)	FALSE	Each 12	10.0	NO	9,492	35.37	35.37	35.37
	Programmable Thermostat (DI)	FALSE	Each 235	16.0	NO	0	18,424	18,424	18,424
	Re-Program Thermostat (DI)	FALSE	Each 156	2.0	NO	0	11,523	11,523	11,523
	Shower Flow Reducer (DI) SF	FALSE	Each 110	10.0	NO	61,166	1,018	1,018	1,018
	Showerhead (DI) MH	FALSE	Each 2	10.0	NO	2,640	43.96	43.96	43.96
	Showerhead (DI) SF	FALSE	Each 486	10.0	NO	248,342	4,135	4,133	4,133
	Showerhead (VA) SF	FALSE	Each 22	10.0	NO	4,840	77.43	77.43	77.43
IHWAP	Advanced Thermostat (DI) - Manual	FALSE	Each 14	11.0	NO	0	1,333	1,333	1,333
	Advanced Thermostat (DI) - Programmable	FALSE	Each 2	11.0	NO	0	143	143	143
	Air Sealing	FALSE	Project 58	20.0	NO	0	5,755	5,755	5,755

Program Path	Savings Category	DAC Project	UnitsQuantity	Effective Useful Life	Early Replacement Flag†	Verified Gross Annual Water Savings (Gallons)	Ex Ante Gross Savings (Therms)	Verified Gross Savings (Therms)	Verified Net Savings (Therms)
	Air Sealing - Door Sweep (DI)	FALSE	Each 3	20.0	NO	0	21.91	21.91	21.91
	Air Sealing - Sealing Tape (DI)	FALSE	Each 24	20.0	NO	0	9.98	9.98	9.98
	Attic Insulation	FALSE	Sq. ft. 34556	30.0	NO	0	8,318	8,318	8,318
	Basement/Sidewall Insulation	FALSE	Sq. ft. 519	30.0	NO	0	37.56	37.56	37.56
	Bathroom Aerator SF (DI)	FALSE	Each 17	10.0	NO	4,487	17.05	17.05	17.05
	Boilers, >95% AFUE <300 MBH	FALSE	Each 10	25.0	YES	0	6,000	5,802	5,802
	DHW Pipe Insulation	FALSE	Ln. ft. 622	15.0	NO	0	1,254	1,254	1,254
	Duct Sealing	FALSE	Each 2	20.0	NO	0	53.78	53.78	53.78
	Floor Insulation Above Crawlspace	FALSE	Sq. ft. 5879	30.0	NO	0	851	851	851
	Furnace Tune-Up	FALSE	Each 3	3.0	NO	0	96.10	96.10	96.10
	Furnace, >95% AFUE	FALSE	Each 34	20.0	YES	0	9,337	9,337	9,337
	Handheld Showerhead (DI) SF	FALSE	Each 8	10.0	NO	3,960	21.39	21.39	21.39
	Kitchen Aerator SF (DI)	FALSE	Each 3	10.0	NO	8,701	39.16	39.16	39.16
	Programmable Thermostat (DI)	FALSE	Each 12	16.0	NO	0	868	868	868
	Rim Joist Insulation	FALSE	Sq. ft. 612	30.0	NO	0	59.76	59.76	59.76
	Showerhead (DI) SF	FALSE	Each 10	10.0	NO	5,281	28.51	28.51	28.51
	Storage Water Heater, >0.67 EF	FALSE	Each 26	13.3	YES	0	1,214	1,415	1,415
	Wall Insulation SF	FALSE	Sq. ft. 49833	30.0	NO	0	5,129	5,129	5,129
Retrofit	Advanced Thermostat (DI) - Manual	FALSE	Each 29	11.0	NO	0	2,817	2,817	2,817
	Advanced Thermostat (DI) - Programmable	FALSE	Each 49	11.0	NO	0	3,282	3,282	3,282
	Air Sealing	FALSE	Project 122	20.0	NO	0	25,788	25,788	25,788
	Air Sealing - Door Sweep (DI)	FALSE	Each 401	20.0	NO	0	2,929	2,929	2,929
	Air Sealing - Gasket (DI)	FALSE	Each 290	20.0	NO	0	109	109	109
	Air Sealing - Sealing Tape (DI)	FALSE	Each 73026	20.0	NO	0	30,379	30,379	30,379
	Air Sealing - Weatherstripping (DI)	FALSE	Each 6369	20.0	NO	0	3,108	3,108	3,108
	Air Sealing - Window Film (DI)	FALSE	Each 24	20.0	NO	0	3.51	3.51	3.51
	Attic Insulation	FALSE	Sq. ft. 219689	30.0	NO	0	46,953	46,953	46,953

Program Path	Savings Category	DAC Project	UnitsQuantity	Effective Useful Life	Early Replacement Flag†	Verified Gross Annual Water Savings (Gallons)	Ex Ante Gross Savings (Therms)	Verified Gross Savings (Therms)	Verified Net Savings (Therms)
	Basement/Sidewall Insulation	FALSE	Sq. ft. 7271	30.0	NO	0	750	746	746
	Bathroom Aerator SF (DI)	FALSE	Each 5	10.0	NO	1,305	4.96	4.96	4.96
	Boiler Tune-Up	FALSE	Each 29	3.0	NO	0	1,424	1,218	1,218
	Boilers, >95% AFUE <300 MBH	FALSE	Each 10	25.0	YES	0	1,892	1,674	1,674
	DHW Pipe Insulation	FALSE	Ln. ft. 961	15.0	NO	0	1,938	1,938	1,938
	Duct Sealing	FALSE	Each 40	20.0	NO	0	6,017	6,017	6,017
	Duct Sealing - Modified Blower Door Subtraction	FALSE	Each 5	20.0	NO	0	849	930	930
	Floor Insulation Above Crawlspace	FALSE	Sq. ft. 3069	30.0	NO	0	407	407	407
	Furnace Tune-Up	FALSE	Each 132	3.0	NO	0	4,723	4,723	4,723
	Furnace, >95% AFUE	FALSE	Each 15	20.0	YES	0	2,559	2,559	2,559
	Handheld Showerhead (DI) SFF	FALSE	Each 2	10.0	NO	1,126	6.08	6.08	6.08
	Kitchen Aerator SF (DI)	FALSE	Each 1	10.0	NO	2,025	9.11	9.11	9.11
	Programmable Thermostat (DI)	FALSE	Each 54	16.0	NO	0	3,889	3,889	3,889
	Rim Joist Insulation	FALSE	Sq. ft. 1237	30.0	NO	0	146	146	146
	Showerhead (DI) SF	FALSE	Each 9	10.0	NO	5,263	28.42	28.42	28.42
	Storage Water Heater, >0.67 EF	FALSE	Each 12	13.3	YES	0	327	327	327
	Wall Insulation SF	FALSE	Sq. ft. 305281	30.0	NO	0	39,062	39,062	39,062
Total or Weighted Average				19.1		1,739,262	349,519	349,154	349,154

Source: Evaluation team analysis.

Table B-2. Verified Cost Effectiveness Inputs – NSG

Program Path	Savings Category	DAC Project	UnitsQuantity	Effective Useful Life	Early Replacement Flag†	Verified Gross Annual Water Savings (Gallons)	Ex Ante Gross Savings (Therms)	Verified Gross Savings (Therms)	Verified Net Savings (Therms)	
HEA	Advanced Thermostat (DI) - Manual	FALSE	Each	23	11.0	NO	0	2,556	2,556	2,556
	Advanced Thermostat (DI) - Programmable	FALSE	Each	21	11.0	NO	0	1,356	1,356	1,356
	Air Handler Filter Replacement (VA)	FALSE	Each	83	3.0	NO	0	658	658	658
	Air Sealing - Door Sweep (DI)	FALSE	Each	81	20.0	NO	0	592	592	592
	Air Sealing - Door Sweep (VA)	FALSE	Each	4	20.0	NO	0	19.87	19.87	19.87
	Bathroom Aerator SF (DI)	FALSE	Each	80	10.0	NO	20,905	79.78	79.44	79.44
	Bathroom Aerator SF (VA)	FALSE	Each	11	10.0	NO	1,121	3.53	3.53	3.53
	Boiler Pipe Insulation	FALSE	Ln. ft.	18	15.0	NO	0	7.77	7.77	7.77
	DHW Pipe Insulation	FALSE	Ln. ft.	94	15.0	NO	0	170	170	170
	Handheld Showerhead (DI) SF	FALSE	Each	21	10.0	NO	13,861	232	231	231
	Kitchen Aerator SF (DI)	FALSE	Each	28	10.0	NO	51,417	231	231	231
	Kitchen Aerator SF (VA)	FALSE	Each	3	10.0	NO	2,373	8.84	8.84	8.84
	Programmable Thermostat (DI)	FALSE	Each	11	16.0	NO	0	494	494	494
	Re-Program Thermostat (DI)	FALSE	Each	11	2.0	NO	0	498	498	498
	Shower Flow Reducer (DI) SF	FALSE	Each	8	10.0	NO	2,860	47.62	47.62	47.62
	Showerhead (DI) SF	FALSE	Each	28	10.0	NO	14,741	245	245	245
Showerhead (VA) SF	FALSE	Each	3	10.0	NO	660	10.56	10.56	10.56	
Retrofit	Advanced Thermostat (DI) - Manual	FALSE	Each	2	11.0	NO	0	103	103	103
	Advanced Thermostat (DI) - Programmable	FALSE	Each	1	11.0	NO	0	71.36	71.36	71.36
	Air Sealing	FALSE	Project	19	20.0	NO	0	2,700	2,700	2,700
	Attic Insulation	FALSE	Sq. ft.	19213	30.0	NO	0	4,722	4,722	4,722
	Basement/Sidewall Insulation	FALSE	Sq. ft.	2569	30.0	NO	0	639	658	658
	DHW Pipe Insulation	FALSE	Ln. ft.	24	15.0	NO	0	48.38	48.38	48.38
	Duct Sealing	FALSE	Each	2	20.0	NO	0	48.47	48.47	48.47
	Duct Sealing - Modified Blower Door Subtraction	FALSE	Each	6	20.0	NO	0	483	487	487

Program Path	Savings Category	DAC Project	UnitsQuantity	Effective Useful Life	Early Replacement Flag†	Verified Gross Annual Water Savings (Gallons)	Ex Ante Gross Savings (Therms)	Verified Gross Savings (Therms)	Verified Net Savings (Therms)
	Furnace, >95% AFUE	FALSE	Each 5	20.0	YES	0	652	626	626
	Handheld Showerhead (DI) SF	FALSE	Each 1	10.0	NO	440	2.38	2.38	2.38
	Rim Joist Insulation	FALSE	Sq. ft. 1438	30.0	NO	0	231	231	231
	Storage Water Heater, >0.67 EF	FALSE	Each 2	13.3	YES	0	74.34	80.23	80.23
	Wall Insulation SF	FALSE	Sq. ft. 2482	30.0	NO	0	358	358	358
Total or Weighted Average				19.5		108,381	17,344	17,345	17,345

Source: Evaluation team analysis.