

Community Joint Kits 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 Community Joint Kits 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 Community Joint Kits program involves mail distribution of a free self-installation energy saving kit to Low-Income Home Energy Assistance Program (LIHEAP) grant recipients. The contents of the kit include twelve measures, a showerhead, bathroom and kitchen faucet aerators, weatherstripping rolls, switch and outlet gaskets, window film kit, door sweep, rope caulk, temperature setback card, and shower timer. The program is validated income eligible, as kits are distributed to verified LIHEAP grant recipients. The program is implemented jointly with ComEd.

The PGL program distributed 17,002 kits in 2024, as shown in Table 1.

Table 1. 2024 Volumetric Summary for PGL

Participation	Income Eligible
Number of Kits Distributed (twelve measures per kit)	17,002

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

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

Table 2. 2024 Installed Measure Quantities for PGL

Program Category	Program Path	Measure	Quantity Unit	Quantity per Kit	Total Quantity Distributed*
Community Joint Kits	Income Eligible	V-Seal Weatherstripping Roll (17')	Each	1	17,002
		Window Insulation Kit (5 sheets per kit)	Each	1	17,002
		Closed-Cell Foam Weatherstripping (17' Roll)	Each	1	17,002
		Outlet Gasket	Each	4	68,008
		Switch Gasket	Each	4	68,008
		Rope Caulk (30')	Each	1	17,002
		Self-Adhesive Door Sweep	Each	1	17,002
		Bathroom Aerator (1 GPM)	Each	2	34,004
		Kitchen Aerator (1.5 GPM)	Each	1	17,002
		Low-Flow Showerhead (1.5 GPM)	Each	1	17,002
		Shower Timer	Each	1	17,002
		Temperature Setback Card	Each	1	17,002

* Total quantity of measures distributed within the kits.

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

The NSG program distributed 1,417 kits in 2024, as shown in Table 3.

Table 3. 2024 Volumetric Summary for NSG

Participation	Total
Number of Kits Distributed (twelve measures per kit)	1,417

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

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

Table 4. 2024 Installed Measure Quantities for NSG

Program Category	Program Path	Measure	Quantity Unit	Quantity per Kit	Total Quantity Distributed*
Community Joint Kits	Income Eligible	V-Seal Weatherstripping Roll (17')	Each	1	1,417
		Window Insulation Kit (5 sheets per kit)	Each	1	1,417
		Closed-Cell Foam Weatherstripping (17' Roll)	Each	1	1,417
		Outlet Gasket	Each	4	5,668
		Switch Gasket	Each	4	5,668
		Rope Caulk (30')	Each	1	1,417
		Self-Adhesive Door Sweep	Each	1	1,417
		Bathroom Aerator (1 GPM)	Each	2	2,834
		Kitchen Aerator (1.5 GPM)	Each	1	1,417
		Low-Flow Showerhead (1.5 GPM)	Each	1	1,417
		Shower Timer	Each	1	1,417
		Temperature Setback Card	Each	1	1,417

* Total quantity of measures distributed within the kits

Source: North Shore Gas tracking data and evaluation team analysis

Program Savings Detail

Table 5 summarizes the energy savings the PGL Community Joint Kits Program achieved in 2024.

Table 5. 2024 Annual Energy Savings Summary for PGL

Program Category	Program Path	Ex Ante Gross Savings (Therms)	Verified Gross RR*	Verified Gross Savings (Therms)	NTG†	NPSO‡	Verified Net Savings (Therms)
Community Joint Kits	Income Eligible	520,992	100%	521,649	1.00	N/A	521,649
Total		520,992	100%	521,649	1.00		521,649

* Realization Rate (RR) is the ratio of verified gross savings to ex ante gross savings, based on evaluation research findings. The RR are rounded to 100%.

† 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) does not apply to this program.

Source: Evaluation team analysis.

Table 6 summarizes the energy savings the NSG Community Joint Kits Program achieved in 2024.

Table 6. 2024 Annual Energy Savings Summary for NSG

Program Category	Program Path	Ex Ante Gross Savings (Therms)	Verified Gross RR*	Verified Gross Savings (Therms)	NTG†	NPSO‡	Verified Net Savings (Therms)
Community Joint Kits	Income Eligible	48,899	100%	48,966	1.00	N/A	48,966
Total		48,899	100%	48,966	1.00		48,966

* Realization Rate (RR) is the ratio of verified gross savings to ex ante gross savings, based on evaluation research findings. The RR are rounded to 100%.

† 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) does not apply to this program.

Source: Evaluation team analysis.

Program Savings by Measure

The PGL program includes twelve measures as shown in Table 7. The rope caulk (30') and window insulation measures contributed the most savings.

Table 7. 2024 Annual Energy Savings by Measure for PGL

Program Category	Program Path	Saving Category	Ex Ante Gross Savings (Therms)	Verified Gross RR*	Verified Gross Savings (Therms)	NTG†	Verified Net Savings (Therms)
Community Joint Kits	Income Eligible	Rope Caulk (30')	100,448	100%	100,448	1.00	100,448
		Window insulation Kit (5 sheets per kit)	93,766	100%	93,766	1.00	93,766
		Low-Flow Showerhead (1.5 GPM)	66,138	100%	66,138	1.00	66,138
		Closed-Cell Foam Weatherstripping (17' Roll)	62,601	100%	62,601	1.00	62,601
		V-Seal Weatherstripping Roll (17')	62,601	100%	62,601	1.00	62,601
		Self-Adhesive Door Sweep	54,338	100%	54,338	1.00	54,338
		Shower Timer	44,664	100%	44,664	1.00	44,664
		Bathroom Aerator (1 GPM)	11,595	100%	11,595	1.00	11,595
		Kitchen Aerator (1.5 GPM)	9,589	100%	9,589	1.00	9,589
		Outlet Gasket	7,209	100%	7,209	1.00	7,209
		Switch Gasket	7,209	100%	7,209	1.00	7,209
		Temperature Setback Card	833	179%	1,490	1.00	1,490
Total			520,992	100%	521,649	1.00	521,649

* 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 twelve measures as shown in Table 8. The rope caulk (30') and window insulation measures contributed the most savings.

Table 8. 2024 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)
Community Joint Kits	Income Eligible	Rope Caulk (30')	9,208	100%	9,208	1.00	9,208
		Window insulation Kit (5 sheets per kit)	8,601	100%	8,601	1.00	8,601
		Low-Flow Showerhead (1.5 GPM)	6,626	100%	6,626	1.00	6,626
		Closed-Cell Foam Weatherstripping (17' Roll)	5,740	100%	5,740	1.00	5,740
		V-Seal Weatherstripping Roll (17')	5,740	100%	5,740	1.00	5,740
		Self-Adhesive Door Sweep	4,981	100%	4,981	1.00	4,981
		Shower Timer	4,475	100%	4,475	1.00	4,475
		Bathroom Aerator (1 GPM)	1,159	100%	1,159	1.00	1,159
		Kitchen Aerator (1.5 GPM)	961	100%	961	1.00	961
		Outlet Gasket	663	100%	663	1.00	663
		Switch Gasket	663	100%	663	1.00	663
		Temperature Setback Card	82	181%	149	1.00	149
Total			48,899	100%	48,966	1.00	48,966

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

Impact Analysis Findings and Recommendations

Impact Parameter Estimates

Table 9 shows the unit therms 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. The findings and recommendations below this table include a discussion of all measures with realization rates above or below 100 percent. Appendix A 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	Data Source(s)
PGL Community Joint Kits					
V-Seal Weatherstripping Roll (17')	Each	3.68	3.68	100%	Illinois TRM, v12.0, Section 5.6.1 and PTD
Window Insulation Kit (5 sheets per kit)	Each	5.52	5.52	100%	Illinois TRM, v12.0, Section 5.6.1 and PTD
Closed-Cell Foam Weatherstripping (17' Roll)	Each	3.68	3.68	100%	Illinois TRM, v12.0, Section 5.6.1 and PTD
Outlet Gasket	Each	0.11	0.11	100%	Illinois TRM, v12.0, Section 5.6.1 and PTD
Switch Gasket	Each	0.11	0.11	100%	Illinois TRM, v12.0, Section 5.6.1 and PTD
Rope Caulk (30')	Each	5.91	5.91	100%	Illinois TRM, v12.0, Section 5.6.1 and PTD
Self-Adhesive Door Sweep	Each	3.20	3.20	100%	Illinois TRM, v12.0, Section 5.6.1 and PTD
Bathroom Aerator (1 GPM)	Each	0.34	0.34	100%	Illinois TRM, v12.0, Section 5.4.4. and PTD
Kitchen Aerator (1.5 GPM)	Each	0.56	0.56	100%	Illinois TRM, v12.0, Section 5.4.4 and PTD
Low-Flow Showerhead (1.5 GPM)	Each	3.89	3.89	100%	Illinois TRM, v12.0, Section 5.4.5 and PTD
Shower Timer	Each	2.63	2.63	100%	Illinois TRM, v12.0, Section 5.4.9 and PTD
Temperature Setback Card	Each	0.05	0.09	179%	Illinois TRM, v12.0, Section 5.4.6 and PTD
NSG Community Joint Kits					
V-Seal Weatherstripping Roll (17')	Each	4.05	4.05	100%	Illinois TRM, v12.0, Section 5.6.1 and PTD
Window Insulation Kit (5 sheets per kit)	Each	6.07	6.07	100%	Illinois TRM, v12.0, Section 5.6.1 and PTD
Closed-Cell Foam Weatherstripping (17' Roll)	Each	4.05	4.05	100%	Illinois TRM, v12.0, Section 5.6.1 and PTD
Outlet Gasket	Each	0.12	0.12	100%	Illinois TRM, v12.0, Section 5.6.1 and PTD
Switch Gasket	Each	0.12	0.12	100%	Illinois TRM, v12.0, Section 5.6.1 and PTD
Rope Caulk (30')	Each	6.50	6.50	100%	Illinois TRM, v12.0, Section 5.6.1 and PTD
Self-Adhesive Door Sweep	Each	3.52	3.52	100%	Illinois TRM, v12.0, Section 5.6.1 and PTD
Bathroom Aerator (1 GPM)	Each	0.41	0.41	100%	Illinois TRM, v12.0, Section 5.4.4. and PTD
Kitchen Aerator (1.5 GPM)	Each	0.68	0.68	100%	Illinois TRM, v12.0, Section 5.4.4 and PTD
Low-Flow Showerhead (1.5 GPM)	Each	4.68	4.68	100%	Illinois TRM, v12.0, Section 5.4.5 and PTD
Shower Timer	Each	3.16	3.16	100%	Illinois TRM, v12.0, Section 5.4.9 and PTD

Measure	Unit Basis	Ex Ante Gross (therms/unit)	Verified Gross (therms/unit)	Realization Rate	Data Source(s)
Temperature Setback Card	Each	0.06	0.11	181%	Illinois TRM, v12.0, Section 5.4.6 and PTD

* Program Tracking Data (PTD) provided by Peoples Gas and North Shore Gas; extract dated January 30, 2025.

† State of Illinois Technical Reference Manual version 12.0 from <http://www.ilsag.info/technical-reference-manual.html>.

Findings and Recommendations

Finding 1. For both PGL and NSG Community Joint Kits, the ex-ante gross therms are inconsistent with the net therms savings reported in the tracking data. Since the NTG factor for all the measures is 1.00, the gross and net savings should be identical. However, due to errors in transferring the Implementation Contractor (IC) calculator’s gross therms to the tracking system, the evaluation team used the ex-ante net therms as a reference point for gross therms, comparing ex-post therms against ex-ante net therms to verify the reported savings.

Recommendation 1. Ensure that program tracking data for gross savings is consistent with the IC calculator’s gross savings.

Finding 2. For the Temperature Setback Card measure, the IC Calculator used the deemed fossil fuel savings provided in IL-TRM v12.0 corresponding to an ‘Other’ system type (which refers to fuel types other than Electric or Gas, such as fuel oil). The evaluation team used the algorithm provided in Section 5.4.6 of the IL-TRM v12.0, utilizing the pre and post hot water setpoint temperatures corresponding to a ‘Gas’ system type when calculating Therms savings. The impact of this finding resulted in a 179% and 181% RR for this measure in PGL and NSG kits respectively.

Recommendation 2. Use the pre and post hot water temperature setpoints corresponding to a ‘Gas’ system type.

Appendix A. Impact Analysis Methodology

The evaluation team verified unit savings for each program measure using the impact algorithm sources found in the Illinois Statewide Technical Reference Manual v12.0 (IL-TRM v12.0). Table A- 1 presents the key parameters and the references used in the verified gross and net savings calculations.

Table A- 1 Impact parameters

Gross Savings Input Parameters	Deemed Input Parameters	Source*
Closed Foam Weatherstripping (17' Roll)	ADJRxAirsealing, ISR, %FossilHeat, Δ therms_wx, %SF, %MF	IL-TRM, v12.0, Section 5.6.1
V-Seal Weatherstripping Roll (17')	ADJRxAirsealing, ISR, %FossilHeat, Δ therms_wx, %SF, %MF	IL-TRM, v12.0, Section 5.6.1
Self-Adhesive Door Sweep	ADJRxAirsealing, ISR, %FossilHeat, Δ therms_sweep, %SF, %MF	IL-TRM, v12.0, Section 5.6.1
Rope Caulk (30')	ADJRxAirsealing, ISR, %FossilHeat, Δ therms_sealing, %SF, %MF	IL-TRM, v12.0, Section 5.6.1
Window Insulation Kit	ADJRxAirsealing, ISR, %FossilHeat, Δ therms_windows, %SF, %MF	IL-TRM, v12.0, Section 5.6.1
Shower Timer	L_base, Showers per capita per day (SPCD), GPH, EPG_gas, %FossilDHW, GPM, L_timer, Household, Usage Factor, %SF, %MF	IL-TRM, v12.0, Section 5.4.9
Low Flow Showerheads	GPM_base, GPM_low, L_base, L_low, Showerheads per household (SPH), showers per capita per day (SPCD), EPG_gas, %FossilDHW, Household, ISR, %SF, %MF	IL-TRM, v12.0, Section 5.4.5
Bathroom Aerator (1 GPM)	GPM_base, GPM_low, L_base, L_low, faucets per household (FPH), drain factor (DF), EPG_gas, %FossilDHW, Household, ISR, %SF, %MF	IL-TRM, v12.0, Section 5.4.4
Kitchen Aerator (1.5 GPM)	GPM_base, GPM_low, L_base, L_low, faucets per household (FPH), drain factor (DF), EPG_gas, %FossilDHW, Household, ISR, %SF, %MF	IL-TRM, v12.0, Section 5.4.4
Outlet Gasket	ADJ_RxAirsealing, ISR, Δ thermsgasket, %FossilHeat, %SF, %MF	IL-TRM, v12.0, Section 5.6.1
Switch Gasket	ADJ_RxAirsealing, ISR, Δ thermsgasket, %FossilHeat, %SF, %MF	IL-TRM, v12.0, Section 5.6.1
Temperature Setback Card	Overall heat transfer coefficient of tank, Surface area of storage tank, Tpre, Tpost, ISR, RE_gas	Illinois TRM, v12.0, Section 5.4.6

* State of Illinois Technical Reference Manual version 12.0 from <http://www.ilsag.info/technical-reference-manual.html>

GPH – Gallons per hour, DHW – Domestic hot water, GPM – Gallons per minute

SF – Single family, MF – Multi family

ISR – In-service rate

Source: Guidehouse evaluation team analysis.

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 Category	Program Path	Savings Category	DAC Project	Units	Quantity	Effective Useful Life	Verified Gross Annual Water Savings (Gallons)	Ex Ante Gross Savings (Therms)	Verified Gross Savings (Therms)	Verified Net Savings (Therms)
Community Joint Kits	Income Eligible	Rope Caulk (30')	FALSE	Each	17,002	20.0	-	100,448	100,448	100,448
		Window Insulation Kit (5 sheets per kit)	FALSE	Each	17,002	1.0	-	93,766	93,766	93,766
		Low-Flow Showerhead (1.5 GPM)	FALSE	Each	17,002	10.0	17,497,166	66,138	66,138	66,138
		Closed-Cell Foam Weatherstripping (17' Roll)	FALSE	Each	17,002	20.0	-	62,601	62,601	62,601
		V-Seal Weatherstripping Roll (17')	FALSE	Each	17,002	20.0	-	62,601	62,601	62,601
		Self-Adhesive Door Sweep	FALSE	Each	17,002	20.0	-	54,338	54,338	54,338
		Shower Timer	FALSE	Each	17,002	2.0	11,892,933	44,664	44,664	44,664
		Bathroom Aerator (1 GPM)	FALSE	Each	34,004	10.0	4,364,447	11,595	11,595	11,595
		Kitchen Aerator (1.5 GPM)	FALSE	Each	17,002	10.0	3,033,055	9,589	9,589	9,589
		Outlet Gasket	FALSE	Each	68,008	20.0	-	7,209	7,209	7,209
		Switch Gasket	FALSE	Each	68,008	20.0	-	7,209	7,209	7,209
		Temperature Setback Card	FALSE	Each	17,002	2.0	-	833	1,490	1,490
Total or Weighted Average					323,038	13.3	36,787,601	520,992	521,649	521,649

Source: Peoples Gas tracking data and Evaluation team analysis.

Table B-2. Verified Cost Effectiveness Inputs – NSG

Program Category	Program Path	Savings Category	DAC Project	Units	Quantity	Effective Useful Life	Verified Gross Annual Water Savings (Gallons)	Ex Ante Gross Savings (Therms)	Verified Gross Savings (Therms)	Verified Net Savings (Therms)
Community Joint Kits	Income Eligible	Rope Caulk (30')	FALSE	Ln Ft	1,417	20.0	-	9,208	9,208	9,208
		Window Insulation Kit (5 sheets per kit)	FALSE	Sq Ft	1,417	1.0	-	8,601	8,601	8,601
		Low-Flow Showerhead (1.5 GPM)	FALSE	Each	1,417	10.0	1,458,269	6,626	6,626	6,626
		Closed-Cell Foam Weatherstripping (17' Roll)	FALSE	Ln Ft	1,417	20.0	-	5,740	5,740	5,740
		V-Seal Weatherstripping Roll (17')	FALSE	Ln Ft	1,417	20.0	-	5,740	5,740	5,740
		Self-Adhesive Door Sweep	FALSE	Each	1,417	20.0	-	4,981	4,981	4,981
		Shower Timer	FALSE	Each	1,417	2.0	991,194	4,475	4,475	4,475
		Bathroom Aerator (1 GPM)	FALSE	Each	2,834	10.0	363,747	1,159	1,159	1,159
		Kitchen Aerator (1.5 GPM)	FALSE	Each	1,417	10.0	252,784	961	961	961
		Outlet Gasket	FALSE	Each	5,668	20.0	-	663	663	663
		Switch Gasket	FALSE	Each	5,668	20.0	-	663	663	663
		Temperature Setback Card	FALSE	Each	1,417	2.0	-	82	149	149
Total or Weighted Average					26,923	13.2	3,065,994	48,899	48,966	48,966

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