

Energy Education Outreach Impact Evaluation Report

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

Prepared for:

Peoples Gas and North Shore Gas

FINAL

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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 Energy Education Outreach Kits (EEO Kits) programs and a summary of the energy impacts for the total program as well as relevant measure and program structure details. The appendices present the impact analysis methodology and Illinois total resource cost (TRC) inputs. Program year 2023 covers January 1, 2023 through December 31, 2023.

2. Program Description

The EEO Kits program is offered jointly to schools served by PGL or NSG and ComEd. PGL and NSG claimed all the gas savings, while ComEd claimed all the electricity savings from kits sent to the joint utility customers. The EEO Kits program has two paths, Market Rate and Income Eligible. The PGL program had 16,746 participants in 2023 and distributed 133,968 measures, as shown in the following table.

Table 2-1. 2023 Volumetric Summary for PGL

Participation	Market Rate	Income Eligible	Total
Participants *	1,748	14,998	16,746
Measures Distributed †	13,984	119,984	133,968

* Participants are defined as the total number of distributed kits.

† Total quantity of measures distributed to participants.

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

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

Table 2-2. 2023 Installed Measure Quantities for PGL

Program Category	Program Path	Measure	Quantity Unit	Installed Quantity
EEO Kits	Market Rate	Closed Foam Weatherstripping (17' Roll)	Ln Ft	1,748
		Self-Adhesive Door Sweep	Each	1,748
		Shower Timer	Each	1,748
		Low Flow Showerheads	Each	1,748
		Low Flow Aerators (Bathroom)	Each	3,496
		Low Flow Aerators (Kitchen)	Each	1,748
		Temperature Setback Card	Each	1,748
EEO Kits	Income Eligible	Closed Foam Weatherstripping (17' Roll)	Ln Ft	14,998
		Self-Adhesive Door Sweep	Each	14,998
		Shower Timer	Each	14,998
		Low Flow Showerheads	Each	14,998

Program Category	Program Path	Measure	Quantity Unit	Installed Quantity
		Low Flow Aerators (Bathroom)	Each	29,996
		Low Flow Aerators (Kitchen)	Each	14,998
		Temperature Setback Card	Each	14,998

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

The NSG program had 2,627 participants in 2023 and distributed 21,016 measures, as shown in the following table.

Table 2-3. 2023 Volumetric Summary for NSG

Participation	Market Rate	Income Eligible	Total
Participants *	1,637	990	2,627
Measures Distributed †	13,096	7,920	21,016

* Participants are defined as the total number of distributed kits.

† Total quantity of measures distributed to participants.

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

Table 2-4 summarizes the measure quantities that are the basis for verified energy savings.

Table 2-4. 2023 Installed Measure Quantities for NSG

Program Category	Program Path	Measure	Quantity Unit	Installed Quantity
EEO Kits	Market Rate	Closed Foam Weatherstripping (17' Roll)	Ln Ft	1,637
		Self-Adhesive Door Sweep	Each	1,637
		Shower Timer	Each	1,637
		Low Flow Showerheads	Each	1,637
		Low Flow Aerators (Bathroom)	Each	3,274
		Low Flow Aerators (Kitchen)	Each	1,637
		Temperature Setback Card	Each	1,637
EEO Kits	Income Eligible	Closed Foam Weatherstripping (17' Roll)	Ln Ft	990
		Self-Adhesive Door Sweep	Each	990
		Shower Timer	Each	990
		Low Flow Showerheads	Each	990
		Low Flow Aerators (Bathroom)	Each	1,980
		Low Flow Aerators (Kitchen)	Each	990
		Temperature Setback Card	Each	990

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

3. Program Savings Detail

Table 3-1 summarizes the energy savings the PGL EEO Kits Program achieved by the Market Rate and Income Eligible paths in 2023.

Table 3-1. 2023 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)
Market Rate	22,638	100%	22,638	1.00	22,638
Income Eligible	181,176	100%	181,176	1.00	181,176
Total or Weighted Average	203,814	100%	203,814	1.00	203,814

* 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 web site: <https://www.ilsag.info/evaluator-ntg-recommendations-for-2023/>. Source: Peoples Gas tracking data and Guidehouse evaluation team analysis.

Table 3-2 summarizes the energy savings the NSG EEO Kits Program achieved by the Market Rate and Income Eligible paths in 2023.

Table 3-2. 2023 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)
Market Rate	23,815	100%	23,815	1.00	23,815
Income Eligible	13,730	100%	13,730	1.00	13,730
Total or Weighted Average	37,545	100%	37,545	1.00	37,545

* 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 web site: <https://www.ilsag.info/evaluator-ntg-recommendations-for-2023/>. Source: North Shore Gas tracking data and Guidehouse evaluation team analysis.

4. Program Savings by Measure

The PGL program includes seven measures under the Market Rate and Income Eligible paths, as shown in the following table. The closed foam weatherstripping (17' roll) and self-adhesive door sweep measures contributed the most savings for each path.

Table 4-1. 2023 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)
Market Rate	Closed Foam Weatherstripping (17' Roll)	6,545	100%	6,545	1.00	6,545
	Self-Adhesive Door Sweep	5,772	100%	5,772	1.00	5,772
	Shower Timer	4,756	100%	4,756	1.00	4,756
	Low Flow Showerheads	3,669	100%	3,669	1.00	3,669
	Low Flow Aerators (Bathroom)	724	100%	724	1.00	724
	Low Flow Aerators (Kitchen)	600	100%	600	1.00	600
	Temperature Setback Card	573	100%	573	1.00	573
Income Eligible	Closed Foam Weatherstripping (17' Roll)	50,843	100%	50,843	1.00	50,843
	Self-Adhesive Door Sweep	44,844	100%	44,844	1.00	44,844
	Shower Timer	39,400	100%	39,400	1.00	39,400
	Low Flow Showerheads	30,386	100%	30,386	1.00	30,386
	Low Flow Aerators (Bathroom)	5,999	100%	5,999	1.00	5,999
	Low Flow Aerators (Kitchen)	4,964	100%	4,964	1.00	4,964
	Temperature Setback Card	4,739	100%	4,739	1.00	4,739
Total or Weighted Average		203,814	100%	203,814	1.00	203,814

* 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 web site: <https://www.ilsag.info/evaluator-ntg-recommendations-for-2023/>. Source: Peoples Gas tracking data and Guidehouse evaluation team analysis.

The NSG program includes seven measures under the Market Rate and Income Eligible paths, as shown in the following table. The closed foam weatherstripping (17' roll) and self-adhesive door sweep measures contributed the most savings for each path.

Table 4-2. 2023 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)
Market Rate	Closed Foam Weatherstripping (17' Roll)	6,695	100%	6,695	1.00	6,695
	Self-Adhesive Door Sweep	5,905	100%	5,905	1.00	5,905
	Shower Timer	5,170	100%	5,170	1.00	5,170
	Low Flow Showerheads	3,986	100%	3,986	1.00	3,986
	Low Flow Aerators (Bathroom)	786	100%	786	1.00	786
	Low Flow Aerators (Kitchen)	652	100%	652	1.00	652
	Temperature Setback Card	622	100%	622	1.00	622
Income Eligible	Closed Foam Weatherstripping (17' Roll)	3,692	100%	3,692	1.00	3,692
	Self-Adhesive Door Sweep	3,256	100%	3,256	1.00	3,256
	Shower Timer	3,126	100%	3,126	1.00	3,126
	Low Flow Showerheads	2,411	100%	2,411	1.00	2,411
	Low Flow Aerators (Bathroom)	475	100%	475	1.00	475
	Low Flow Aerators (Kitchen)	394	100%	394	1.00	394
	Temperature Setback Card	376	100%	376	1.00	376
Total or Weighted Average		37,545	100%	37,545	1.00	37,545

* 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 web site: <https://www.ilsag.info/evaluator-ntg-recommendations-for-2023/>. Source: North Shore Gas tracking data and Guidehouse team analysis.

5. Impact Analysis Findings and Recommendations

The EEO Kits program achieved a 100% realization rate (RR) for 2023. The ex ante savings matched the verified savings for each measure and the entire kit.

5.1 Impact Parameter Estimates

Table 5-1 shows the unit therm savings and and RR 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 5-1. Verified Gross Savings Parameters

Measure	Unit Basis	Ex Ante Gross (therms/unit)	Verified Gross (therms/unit)	Realization Rate	Data Source(s)
PGL EEO Kits Market Rate					
Closed Foam Weatherstripping (17' Roll)	Ln Ft	3.74	3.74	100%	IL-TRM† Section 5.6.1, PTD*
Self-Adhesive Door Sweep	Each	3.30	3.30	100%	IL-TRM Section 5.6.1, PTD
Shower Timer	Each	2.72	2.72	100%	IL-TRM Section 5.4.9, PTD
Low Flow Showerheads	Each	2.10	2.10	100%	IL-TRM Section 5.4.5, PTD
Low Flow Aerators (Bathroom)	Each	0.21	0.21	100%	IL-TRM Section 5.4.4, PTD
Low Flow Aerators (Kitchen)	Each	0.34	0.34	100%	IL-TRM Section 5.4.4, PTD
Temperature Setback Card	Each	0.33	0.33	100%	IL-TRM Section 5.4.6, PTD
PGL EEO Kits Income Eligible					
Closed Foam Weatherstripping (17' Roll)	Ln Ft	3.39	3.39	100%	IL-TRM Section 5.6.1, PTD
Self-Adhesive Door Sweep	Each	2.99	2.99	100%	IL-TRM Section 5.6.1, PTD
Shower Timer	Each	2.63	2.63	100%	IL-TRM Section 5.4.9, PTD
Low Flow Showerheads	Each	2.03	2.03	100%	IL-TRM Section 5.4.5, PTD
Low Flow Aerators (Bathroom)	Each	0.20	0.20	100%	IL-TRM Section 5.4.4, PTD
Low Flow Aerators (Kitchen)	Each	0.33	0.33	100%	IL-TRM Section 5.4.4, PTD
Temperature Setback Card	Each	0.32	0.32	100%	IL-TRM Section 5.4.6, PTD
NSG EEO Kits Market Rate					
Closed Foam Weatherstripping (17' Roll)	Ln Ft	4.09	4.09	100%	IL-TRM Section 5.6.1, PTD

Measure	Unit Basis	Ex Ante Gross (therms/unit)	Verified Gross (therms/unit)	Realization Rate	Data Source(s)
Self-Adhesive Door Sweep	Each	3.61	3.61	100%	IL-TRM Section 5.6.1, PTD
Shower Timer	Each	3.16	3.16	100%	IL-TRM Section 5.4.9, PTD
Low Flow Showerheads	Each	2.44	2.44	100%	IL-TRM Section 5.4.5, PTD
Low Flow Aerators (Bathroom)	Each	0.24	0.24	100%	IL-TRM Section 5.4.4, PTD
Low Flow Aerators (Kitchen)	Each	0.40	0.40	100%	IL-TRM Section 5.4.4, PTD
Temperature Setback Card	Each	0.38	0.38	100%	IL-TRM Section 5.4.6, PTD
NSG EEO Kits Income Eligible					
Closed Foam Weatherstripping (17' Roll)	Ln Ft	3.73	3.73	100%	IL-TRM Section 5.6.1, PTD
Self-Adhesive Door Sweep	Each	3.29	3.29	100%	IL-TRM Section 5.6.1, PTD
Shower Timer	Each	3.16	3.16	100%	IL-TRM Section 5.4.9, PTD
Low Flow Showerheads	Each	2.44	2.44	100%	IL-TRM Section 5.4.5, PTD
Low Flow Aerators (Bathroom)	Each	0.24	0.24	100%	IL-TRM Section 5.4.4, PTD
Low Flow Aerators (Kitchen)	Each	0.40	0.40	100%	IL-TRM Section 5.4.4, PTD
Temperature Setback Card	Each	0.38	0.38	100%	IL-TRM Section 5.4.6, 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.ilsag.info/technical-reference-manual.html>.

Source: Guidehouse evaluation team analysis

5.2 Findings and Recommendations

The overall RR for therms savings was 100%. Guidehouse verified all measure savings and did not find any discrepancies with the savings for both PGL and NSG programs. There are no findings and recommendations based on the evaluation of the 2023 program activity.

Appendix A. Impact Analysis Methodology

The evaluation team verified per-unit savings for each program measure using the impact algorithm sources found in the Illinois Statewide Technical Reference Manual v11.0 (IL-TRM).¹ 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	IL-TRM Section 5.6.1
Self-Adhesive Door Sweep	ADJRxAirsealing, ISR, %FossilHeat, Δ therms_sweep	IL-TRM 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 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 Section 5.4.5
Low Flow Aerators (Bathroom)	GPM_base, GPM_low, L_base, L_low, faucets per household (FPH), drain factor (DF), EPG_gas, %FossilDHW, Household, ISR, %SF, %MF	IL-TRM Section 5.4.4
Low Flow Aerators (Kitchen)	GPM_base, GPM_low, L_base, L_low, faucets per household (FPH), drain factor (DF), EPG_gas, %FossilDHW, Household, ISR, %SF, %MF	IL-TRM Section 5.4.4
Temperature Setback Card	U (Overall heat transfer coefficient of tank), A (Surface area of storage tank), Tpre, Tpost, Hours, RE_gas, %FossilDHW, ISR	IL-TRM Section 5.4.6

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

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

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 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	Units	Quantity	Effective Useful Life	Ex Ante Gross Savings (Therms)	Verified Gross Savings (Therms)	Verified Net Savings (Therms)
Market Rate	Closed Foam Weatherstripping (17' Roll)	Ln Ft	1,748	20	6,545	6,545	6,545
	Self-Adhesive Door Sweep	Each	1,748	20	5,772	5,772	5,772
	Shower Timer	Each	1,748	2	4,756	4,756	4,756
	Low Flow Showerheads	Each	1,748	10	3,669	3,669	3,669
	Low Flow Aerators (Bathroom)	Each	3,496	10	724	724	724
	Low Flow Aerators (Kitchen)	Each	1,748	10	600	600	600
	Temperature Setback Card	Each	1,748	2	573	573	573
Income Eligible	Closed Foam Weatherstripping (17' Roll)	Ln Ft	14,998	20	50,843	50,843	50,843
	Self-Adhesive Door Sweep	Each	14,998	20	44,844	44,844	44,844
	Shower Timer	Each	14,998	2	39,400	39,400	39,400
	Low Flow Showerheads	Each	14,998	10	30,386	30,386	30,386
	Low Flow Aerators (Bathroom)	Each	29,996	10	5,999	5,999	5,999
	Low Flow Aerators (Kitchen)	Each	14,998	10	4,964	4,964	4,964
	Temperature Setback Card	Each	14,998	2	4,739	4,739	4,739
Total or Weighted Average			133,968	13.4	203,814	203,814	203,814

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

Table B-2. Verified Cost Effectiveness Inputs – NSG

Program Path	Savings Category	Units	Quantity	Effective Useful Life	Ex Ante Gross Savings (Therms)	Verified Gross Savings (Therms)	Verified Net Savings (Therms)
Market Rate	Closed Foam Weatherstripping (17' Roll)	Ln Ft	1,637	20	6,695	6,695	6,695
	Self-Adhesive Door Sweep	Each	1,637	20	5,905	5,905	5,905
	Shower Timer	Each	1,637	2	5,170	5,170	5,170
	Low Flow Showerheads	Each	1,637	10	3,986	3,986	3,986
	Low Flow Aerators (Bathroom)	Each	3,274	10	786	786	786
	Low Flow Aerators (Kitchen)	Each	1,637	10	652	652	652
	Temperature Setback Card	Each	1,637	2	622	622	622
Income Eligible	Closed Foam Weatherstripping (17' Roll)	Ln Ft	990	20	3,692	3,692	3,692
	Self-Adhesive Door Sweep	Each	990	20	3,256	3,256	3,256
	Shower Timer	Each	990	2	3,126	3,126	3,126
	Low Flow Showerheads	Each	990	10	2,411	2,411	2,411
	Low Flow Aerators (Bathroom)	Each	1,980	10	475	475	475
	Low Flow Aerators (Kitchen)	Each	990	10	394	394	394
	Temperature Setback Card	Each	990	2	376	376	376
Total or Weighted Average			21,016	13.2	37,545	37,545	37,545

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