



Energy Education Outreach Impact Evaluation Report

Energy Efficiency Plan: Program Year 2022
(1/1/2022-12/31/2022)

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) 2022 Energy Education Outreach Kits (EEO Kits) programs and presents a summary of the energy impacts for the total program and broken out by relevant measure and program structure details. The appendices present the impact analysis methodology and Illinois total resource cost (TRC) inputs. Program year 2022 covers January 1, 2022, through December 31, 2022.

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, namely the Market Rate and Income Eligible. The PGL program had 18,790 participants in 2022 and distributed 225,480 measures as Table 2-1 shows.

Table 2-1. 2022 Volumetric Summary for PGL

Participation	Market Rate	Income Eligible	Total
Participants *	1,298	17,399	18,697
Distributed Measures †	15,576	208,788	224,364

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

† Distributed measures are the total quantity of measures distributed within the kits.

Source: Peoples Gas tracking data and Guidehouse evaluation team analysis

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

Table 2-2. 2022 Installed Measure Quantities for PGL

Program Category	Program Path	Measure	Quantity Unit	Quantity per Kit	Total Quantity Distributed Quantity
EEO Kits	Market Rate	Shower Timer	Each	1	1,298
		Low Flow Showerheads	Each	1	1,298
		Air Sealing (Outlet Gasket)	Linear Feet	4	5,192
		Air Sealing (Switch Gasket)	Linear Feet	4	5,192
		Low Flow Aerators (Kitchen)	Each	1	1,298
		Low Flow Aerators (Bathroom)	Each	1	1,298
EEO Kits	Income Eligible	Shower Timer	Each	1	17,399
		Low Flow Showerheads	Each	1	17,399
		Air Sealing (Outlet Gasket)	Linear Feet	4	69,596
		Air Sealing (Switch Gasket)	Linear Feet	4	69,596
		Low Flow Aerators(Kitchen)	Each	1	17,399
		Low Flow Aerators (Bathroom)	Each	1	17,399

Source: Peoples Gas tracking data and Guidehouse evaluation team analysis

The NSG program had 3,142 participants in 2022 and distributed 37,704 measures as Table 2-3 shows.

Table 2-3. 2022 Volumetric Summary for NSG

Participation	Market Rate	Income Eligible	Total
Participants *	1,948	1,194	3,142
Distributed Measures †	23,376	14,328	37,704

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

† Distributed measures are the total quantity of measures distributed within the kits.

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

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

Table 2-4. 2022 Installed Measure Quantities for NSG

Program Category	Program Path	Measure	Quantity Unit	Quantity per Kit	Total Quantity Distributed Quantity
EEO Kits	Market Rate	Shower Timer	Each	1	1,948
		Low Flow Showerheads	Each	1	1,948
		Air Sealing (Outlet Gasket)	Linear Feet	4	7,792
		Air Sealing (Switch Gasket)	Linear Feet	4	7,792
		Low Flow Aerators (Kitchen)	Each	1	1,948
		Low Flow Aerators (Bathroom)	Each	1	1,948
EEO Kits	Income Eligible	Shower Timer	Each	1	1,194
		Low Flow Showerheads	Each	1	1,194
		Air Sealing (Outlet Gasket)	Linear Feet	4	4,776
		Air Sealing (Switch Gasket)	Linear Feet	4	4,776
		Low Flow Aerators (Kitchen)	Each	1	1,194
		Low Flow Aerators (Bathroom)	Each	1	1,194

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 Market Rate and Income Eligible paths in 2022.

Table 3-1. 2022 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	10,320	100%	10,319	1.00	10,319
Income Eligible	138,337	100%	138,322	1.00	138,322
Total or Weighted Average	148,657	100%	148,641	1.00	148,641

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

† Net-to-gross (NTG): A deemed value. Available on the Stakeholders Advisory Group (SAG) website: <https://www.ilsag.info/evaluator-ntg-recommendations-for-2022/>.

Source: Peoples Gas tracking data and Guidehouse evaluation team analysis

Table 3-2 summarizes the energy savings the NSG EEO Kits program achieved by Market Rate and Income Eligible path in 2022.

Table 3-2. 2022 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	15,488	100%	15,487	1.00	15,487
Income Eligible	9,493	100%	9,492	1.00	9,492
Total or Weighted Average	24,982	100%	24,979	1.00	24,979

Note: Totals may not sum due to rounding.

* RR is the ratio of verified gross savings to ex ante gross savings based on evaluation research findings.

† A deemed value. Available on the SAG website: <https://www.ilsag.info/evaluator-ntg-recommendations-for-2022/>.

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

4. Program Savings by Measure

The PGL program includes six measures under the Market Rate and Income Eligible paths as Table 4-1 shows. The shower timer and low flow showerheads measures contributed the most savings for each path.

Table 4-1. 2022 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	Shower Timer	4,304	100%	4,304	1.00	4,304
	Low Flow Showerheads	3,319	100%	3,319	1.00	3,319
	Air Sealing (Outlet Gasket)	914	100%	914	1.00	914
	Air Sealing (Switch Gasket)	914	100%	914	1.00	914
	Low Flow Aerators (Kitchen)	542	100%	542	1.00	542
	Low Flow Aerators (Bathroom)	327	100%	327	1.00	327
Income Eligible	Shower Timer	57,695	100%	57,688	1.00	57,688
	Low Flow Showerheads	44,493	100%	44,488	1.00	44,488
	Air Sealing (Outlet Gasket)	12,247	100%	12,245	1.00	12,245
	Air Sealing (Switch Gasket)	12,247	100%	12,245	1.00	12,245
	Low Flow Aerators (Kitchen)	7,267	100%	7,266	1.00	7,266
	Low Flow Aerators (Bathroom)	4,389	100%	4,389	1.00	4,389
Total or Weighted Average		148,657	100%	148,641	1.00	148,641

Note: Totals may not sum due to rounding.

* RR is the ratio of verified gross savings to ex ante gross savings based on evaluation research findings.

† A deemed value. Available on the SAG website: <https://www.ilsag.info/evaluator-ntg-recommendations-for-2022/>.

Source: Peoples Gas tracking data and Guidehouse evaluation team analysis

The NSG program includes six measures under the Market Rate and Income Eligible path as Table 4-2 shows. The shower timer and low flow showerheads measures contributed the most savings for each path.

Table 4-2. 2022 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	Shower Timer	6,460	100%	6,459	1.00	6,459
	Low Flow Showerheads	4,981	100%	4,981	1.00	4,981
	Air Sealing (Outlet Gasket)	1,371	100%	1,371	1.00	1,371
	Air Sealing (Switch Gasket)	1,371	100%	1,371	1.00	1,371
	Low Flow Aerators (Kitchen)	814	100%	814	1.00	814
	Low Flow Aerators (Bathroom)	491	100%	491	1.00	491
Income Eligible	Shower Timer	3,959	100%	3,959	1.00	3,959
	Low Flow Showerheads	3,053	100%	3,053	1.00	3,053
	Air Sealing (Outlet Gasket)	840	100%	840	1.00	840
	Air Sealing (Switch Gasket)	840	100%	840	1.00	840
	Low Flow Aerators (Kitchen)	499	100%	499	1.00	499
	Low Flow Aerators (Bathroom)	301	100%	301	1.00	301
Total or Weighted Average		24,982	100%	24,979	1.00	24,979

Note: Totals may not sum due to rounding.

* RR is the ratio of verified gross savings to ex ante gross savings based on evaluation research findings.

† A deemed value. Available on the SAG website: <https://www.ilsag.info/evaluator-ntg-recommendations-for-2022/>.

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 2022. The ex ante savings matched the verified savings for each measure and the entire kit.

Finding 1. There was one change in the tracking data that affected the total number of kits. The first version of the tracking data¹ received from Franklin Energy included records for a total of 17,492 kits distributed in the joint PGL – ComEd territory, which was consistent with the tracking data received from ComEd. This was later revised to 17,399 PGL – ComEd joint kits in a

¹ First tracking data was received from Franklin Energy for evaluation on 1/31/2023.

second version,² which removed one school that had received 93 kits. The removal of the school caused a discrepancy between the tracking data from ComEd and the tracking data received from Franklin Energy.

The evaluation team used the updated tracking data with the lower quantity of kits (17,399) to develop the verified savings. Franklin Energy informed the evaluation team that the adjustment to the total kit quantity was due to a school being in a different service territory.

Recommendation 1. Coordinate with ComEd to ensure that the tracking data for the EEO Kits programs agrees with the total number of joint kits distributed to joint customers with ComEd.

5.1 Impact Parameter Estimates

Table 5-1 shows the unit therms savings and RR findings by measure from the Guidehouse review. The RR is the ratio of the verified savings to the ex ante savings. Following Table 5-1 are findings and recommendations, including discussion of all measures with RR above or below 100%. 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)
Shower Timer	Kit	3.32	3.32	100%	Illinois TRM, v10.0†, Section 5.4.9 and PTD*
Low Flow Showerheads	Kit	2.56	2.56	100%	Illinois TRM, v10.0, Section 5.4.5 and PTD
Air Sealing (Outlet Gasket)	Kit	0.70	0.70	100%	Illinois TRM, v10.0, Section 5.6.1 and PTD
Air Sealing (Switch Gasket)	Kit	0.70	0.70	100%	Illinois TRM, v10.0, Section 5.6.1 and PTD
Low Flow Aerators (Kitchen)	Kit	0.42	0.42	100%	Illinois TRM, v10.0, Section 5.4.4 and PTD
Low Flow Aerators (Bathroom)	Kit	0.25	0.25	100%	Illinois TRM, v10.0, Section 5.4.4 and PTD

* Program tracking data provided by PGL and NSG; extract dated January 30, 2023.

† Illinois Statewide Technical Reference Manual (TRM) version 10.0 from <http://www.ilsaq.info/technical-reference-manual.html>.

Source: Guidehouse evaluation team analysis

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.

² Updated program tracking data provided on 2/17/2023 by Franklin Energy, indicating change in measure count for one school in 2022.

5.2 Historical RR and NTG Values

Table 5-2 shows the historical gross RR and net-to-gross (NTG) values for the EEO Kits program.

Table 5-2. Historical Realization Rates and NTG Values

Program Year	PGL Verified Gross RR	NSG Verified Gross RR	PGL NTG	NSG NTG
2018	126%	177%	1.00	1.00
2019	107%	113%	1.00	1.00
2020	120%	121%	1.00	1.00
2021	127%	99%	1.00	1.00
2022	100%	100%	1.00	1.00

Source: Guidehouse evaluation research

Appendix A. Impact Analysis Methodology

The evaluation team verified unit savings for each program measure using the impact algorithm sources found in the IL-TRM v10.0.³ 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*
Shower Timer	L_base, Showers per capita per day (SPCD), GPH, EPG_gas, %DHW, GPM, L_timer, Household, Usage Factor, %SF, %MF	IL-TRM, v10.0, Section 5.4.9
Low Flow Showerheads	GPM_base, GPM_low, L_base, L_low, Showerheads per household (SPH), SPCD, EPG_gas, %Fossil DHW, Household, ISR, %SF, %MF	IL-TRM, v10.0, Section 5.4.5
Air Sealing (Outlet Gasket)	ADJ_RxAirsealing, ISR, Δ thermsgasket, %GasHeat, %SF, %MF	IL-TRM, v10.0, Section 5.6.1
Air Sealing (Switch Gasket)	ADJ_RxAirsealing, ISR, Δ thermsgasket, %GasHeat, %SF, %MF	IL-TRM, v10.0, Section 5.6.1
Low Flow Aerators (Kitchen)	GPM_base, GPM_low, L_base, L_low, faucets per household (FPH), drain factor (DF), EPG_gas, %Fossil DHW, Household, ISR, %SF, %MF	IL-TRM, v10.0, Section 5.4.4
Low Flow Aerators (Bathroom)	GPM_base, GPM_low, L_base, L_low, faucets per household (FPH), drain factor (DF), EPG_gas, %Fossil DHW, Household, ISR, %SF, %MF	IL-TRM, v10.0, Section 5.4.4

*IL-TRM v10.0 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

³ In this report, unless stated otherwise, IL-TRM refers to version 10.0 (v10.0).

Appendix B. Program Specific Inputs for the Illinois TRC

Table B-1 and Table B-2 show the 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 these tables 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	Shower Timer	Each	1,298	2	4,304	4,304	4,304
	Low Flow Showerheads	Each	1,298	10	3,319	3,319	3,319
	Air Sealing (Outlet Gasket)	Each	5,192	20	914	914	914
	Air Sealing (Switch Gasket)	Each	5,192	20	914	914	914
	Low Flow Aerators (Kitchen)	Each	1,298	10	542	542	542
	Low Flow Aerators (Bathroom)	Each	1,298	10	327	327	327
Income Eligible	Shower Timer	Each	17,399	2	57,695	57,688	57,688
	Low Flow Showerheads	Each	17,399	10	44,493	44,488	44,488
	Air Sealing (Outlet Gasket)	Each	69,596	20	12,247	12,245	12,245
	Air Sealing (Switch Gasket)	Each	69,596	20	12,247	12,245	12,245
	Low Flow Aerators (Kitchen)	Each	17,399	10	7,267	7,266	7,266
	Low Flow Aerators (Bathroom)	Each	17,399	10	4,389	4,389	4,389
Total or Weighted Average			224,364	8.4	148,657	148,641	148,641

Note: Totals may not sum due to rounding.

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	Shower Timer	Each	1,948	2	6,460	6,459	6,459
	Low Flow Showerheads	Each	1,948	10	4,981	4,981	4,981
	Air Sealing (Outlet Gasket)	Each	7,792	20	1,371	1,371	1,371
	Air Sealing (Switch Gasket)	Each	7,792	20	1,371	1,371	1,371
	Low Flow Aerators (Kitchen)	Each	1,948	10	814	814	814
	Low Flow Aerators (Bathroom)	Each	1,948	10	491	491	491
Income Eligible	Shower Timer	Each	1,194	2	3,959	3,959	3,959
	Low Flow Showerheads	Each	1,194	10	3,053	3,053	3,053
	Air Sealing (Outlet Gasket)	Each	4,776	20	840	840	840
	Air Sealing (Switch Gasket)	Each	4,776	20	840	840	840
	Low Flow Aerators (Kitchen)	Each	1,194	10	499	499	499
	Low Flow Aerators (Bathroom)	Each	1,194	10	301	301	301
Total or Weighted Average			37,704	8.4	24,982	24,979	24,979

Note: Totals may not sum due to rounding.

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