



# Income Eligible Community Kits Program Impact Evaluation Report

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

Prepared for:

Peoples Gas and North Shore Gas

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## 1. Introduction

This report presents the impact evaluation results of the Peoples Gas (PGL) and North Shore Gas (NSG) 2022 Income Eligible Community Kits (IE Community Kits) program. 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 IE Community Kits program involves mail distribution of a free self-installation energy-saving kit. The contents of the kit include a showerhead, two faucet aerators, weatherstripping, switch and outlet gaskets, and shower timer. The program distributes kits to customers verified as Low-Income Home Energy Assistance Program (LIHEAP) grant recipients and therefore validated as income eligible. The program is implemented jointly with ComEd.

The PGL program distributed 38,498 kits in 2022 and included seven different types of measures, as Table 2-1 indicates.

**Table 2-1. 2022 Volumetric Summary for PGL**

Participation	Income Eligible
Number of Kits Distributed (seven measures per kit)	38,498

Distributed measures refer to 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 for the seven measures that are the basis for verified energy savings.

**Table 2-2. 2022 Installed Measure Quantities for PGL**

Measure	Quantity Unit	Quantity per Kit	Total Quantity Distributed
Low Flow Aerators (Bathroom)	Each	1	38,498
Low Flow Aerators (Kitchen)	Each	1	38,498
Low Flow Showerheads	Each	1	38,498
Shower Timer	Each	1	38,498
Air Sealing (Outlet Gasket)	Each	4	153,992
Air Sealing (Switch Gasket)	Each	4	153,992
Closed-Cell Foam Weatherstripping	Linear Feet	17	654,466

Source: Peoples Gas tracking data and Guidehouse evaluation team analysis

The NSG program distributed 1,825 kits in 2022 and included seven different types of measures as Table 2-3 indicates.

**Table 2-3. 2022 Volumetric Summary for NSG**

Participation	Income Eligible
Number of Kits Distributed (seven measures per kit)	1,825

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

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

**Table 2-4. 2022 Installed Measure Quantities for NSG**

Measure	Quantity Unit	Quantity per Kit	Total Quantity Distributed
Low Flow Aerators (Bathroom)	Each	1	1,825
Low Flow Aerators (Kitchen)	Each	1	1,825
Low Flow Showerheads	Each	1	1,825
Shower Timer	Each	1	1,825
Air Sealing (Outlet Gasket)	Each	4	7,300
Air Sealing (Switch Gasket)	Each	4	7,300
Closed-Cell Foam Weatherstripping	Linear Feet	17	31,025

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

### 3. Program Savings Detail

Table 3-1 summarizes the energy savings the PGL program achieved 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)
<b>IE Community Kits</b>	614,541	100%	614,538	1.00	614,538
<b>Total or Weighted Average</b>	<b>614,541</b>	<b>100%</b>	<b>614,538</b>	<b>1.00</b>	<b>614,538</b>

\* 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 Stakeholder 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 program achieved in CY2022.

**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)
<b>IE Community Kits</b>	29,132	100%	29,132	1.00	29,132
<b>Total or Weighted Average</b>	<b>29,132</b>	<b>100%</b>	<b>29,132</b>	<b>1.00</b>	<b>29,132</b>

\* 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 seven measures as Table 4-1 shows. The Low Flow Showerheads and Closed-Cell Foam Weatherstripping (17' Roll) contributed the most savings.

**Table 4-1. 2022 Annual Energy Savings by Measure for PGL**

Program Category	Savings Category	Ex Ante Gross Savings (therms)	Verified Gross RR*	Verified Gross Savings (therms)	NTG†	Verified Net Savings (therms)
<b>IE Community Kits</b>	Low Flow Showerheads	224,435	100%	224,435	1.0	224,435
	Closed-Cell Foam Weatherstripping	161,561	100%	161,561	1.0	161,561
	Shower Timer	127,644	100%	127,644	1.0	127,644
	Low Flow Aerators (Kitchen)	32,750	100%	32,750	1.0	32,750
	Air Sealing (Outlet Gasket)	23,825	100%	23,825	1.0	23,825
	Air Sealing (Switch Gasket)	23,825	100%	23,825	1.0	23,825
	Low Flow Aerators (Bathroom)	20,501	100%	20,498	1.0	20,498
<b>Total or Weighted Average</b>		<b>614,541</b>	<b>100%</b>	<b>614,538</b>	<b>1.0</b>	<b>614,538</b>

\* 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 seven measures as Table 4-2 shows. The Low Flow Showerheads and Closed-Cell Foam Weatherstripping (17' Roll) contributed the most savings.

**Table 4-2. CY2022 Annual Energy Savings by Measure for NSG**

Program Category	Savings Category	Ex Ante Gross Savings (therms)	Verified Gross RR*	Verified Gross Savings (therms)	NTG†	Verified Net Savings (therms)
IE Community Kits	Low Flow Showerheads	10,639	100%	10,639	1.0	10,639
	Closed-Cell Foam Weatherstripping	7,659	100%	7,659	1.0	7,659
	Shower Timer	6,051	100%	6,051	1.0	6,051
	Low Flow Aerators (Kitchen)	1,553	100%	1,553	1.0	1,553
	Air Sealing (Outlet Gasket)	1,129	100%	1,129	1.0	1,129
	Air Sealing (Switch Gasket)	1,129	100%	1,129	1.0	1,129
	Low Flow Aerators (Bathroom)	972	100%	972	1.0	972
	<b>Total or Weighted Average</b>		<b>29,132</b>	<b>100%</b>	<b>29,132</b>	<b>1.0</b>

\* 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 IE Community Kits program achieved a 100% realization rate (RR) for CY2022. The ex ante savings matched the verified savings for each measure and the entire kit.

**Finding 1.** Evaluation found one change in the tracking data that affected the total number of kits. The first version of the tracking data<sup>1</sup> received from PGL/NSG included a total of 38,511 kits that were distributed in the PGL – ComEd territory. This number was consistent with the tracking data received from ComEd. The kit count was later revised to 38,498 PGL – ComEd kits in a second version of the data,<sup>2</sup> which removed 13 individual line items. The removal caused a discrepancy between the tracking data from ComEd, and the tracking data received from PGL and NSG.

The evaluation team used the updated tracking data with the lower quantity of kits (38,498) to develop the verified savings. Franklin Energy informed the evaluation team that the adjustment to the total kit quantity was due to those participants living in different utility territory.

**Recommendation 1.** Program implementer should coordinate with ComEd to ensure that the tracking data for the IE Community Kits program agrees with the total number of kits distributed to customers with ComEd.

<sup>1</sup> PGL and NSG tracking data was received from Franklin Energy for evaluation on 1/31/2023.

<sup>2</sup> PGL and NSG updated program tracking data provided on 2/17/2023 by Franklin Energy, indicating change in measure count for one school in 2022.

## 5.1 Impact Parameter Estimates

Table 5-1 shows the unit therms savings and RR findings by measure from the evaluation team's review. The RR is the ratio of the verified savings to the ex ante savings. Following the table, Guidehouse provides 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)
Low Flow Showerheads	Each	5.83	5.83	100%	Illinois TRM, v10.0†, Section 5.4.5 and PTD*
Closed-Cell Foam Weatherstripping (17' Roll)	Each	4.20	4.20	100%	Illinois TRM, v10.0†, Section 5.6.1 and PTD*
Shower Timer	Each	3.32	3.32	100%	Illinois TRM, v10.0†, Section 5.4.9 and PTD*
Low Flow Aerators (Kitchen)	Each	0.85	0.85	100%	Illinois TRM, v10.0†, Section 5.4.4 and PTD*
Low Flow Aerators (Bathroom)	Each	0.53	0.53	100%	Illinois TRM, v10.0†, Section 5.4.4 and PTD*
Air Sealing (Outlet Gasket)	Each	0.15	0.15	100%	Illinois TRM, v10.0†, Section 5.6.1 and PTD*
Air Sealing (Switch Gasket)	Each	0.15	0.15	100%	Illinois TRM, v10.0†, Section 5.6.1 and PTD*

\* Program tracking data (PTD) provided by PGL and NSG; extract on January 30, 2022.

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

Source: Guidehouse evaluation team analysis



## 5.2 Historical RR and NTG Values

Table 5-2 shows historical gross RR and NTG values for the IE Community Kits program.

**Table 5-2. Historical RR and NTG Values**

Program Year	PGL-Verified Gross RR	NSG-Verified Gross RR	PGL NTG	NSG NTG
2019	100%	N/A	1.00	1.00
2020	108%	108%	1.00	1.00
2021	105%	105%	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 IL-TRM v10.0.<sup>3</sup> Table A-1 presents the key parameters and the references used in the verified gross and net savings calculations.

**Table A-1. Profile of Gross Impact Sample for Custom Projects**

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
Closed-Cell Foam Weatherstripping (17' Roll)	ADJ_RxAirsealing, ISR, $\Delta$ thermswx, %GasHeat, %SF, %MF	IL-TRM, v10.0, Section 5.6.1
Air Sealing (Outlet Gasket)	ADJ_RxAirsealing, ISR, $\Delta$ thermsgasket, %GasHeat, %SF, %MF	IL-TRM, v10.0, Section 5.6.1
Air Sealing (Switch Gasket)	ADJ_RxAirsealing, ISR, $\Delta$ 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, FPH, DF, EPG_gas, %Fossil DHW, Household, ISR, %SF, %MF	IL-TRM, v10.0, Section 5.4.4

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

<sup>3</sup> 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)
IE Community Kits	Low Flow Aerators (Bathroom)	Each	38,498	10	224,435	224,435	224,435
	Low Flow Aerators (Kitchen)	Each	38,498	10	161,561	161,561	161,561
	Low Flow Showerheads	Each	38,498	10	127,644	127,644	127,644
	Shower Timer	Each	38,498	2	32,750	32,750	32,750
	Air Sealing (Outlet Gasket)	Each	153,992	10	23,825	23,825	23,825
	Air Sealing (Switch Gasket)	Each	153,992	10	23,825	23,825	23,825
	Closed-Cell Foam Weatherstripping	Linear Feet	654,466	20	20,501	20,498	20,498
	<b>Total or Weighted Average</b>			<b>1,116,442</b>	<b>9.9</b>	<b>614,541</b>	<b>614,538</b>

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)
IE Community Kits	Low Flow Aerators (Bathroom)	Each	1,825	10	10,639	10,639	10,639
	Low Flow Aerators (Kitchen)	Each	1,825	10	7,659	7,659	7,659
	Low Flow Showerheads	Each	1,825	10	6,051	6,051	6,051
	Shower Timer	Each	1,825	2	1,553	1,553	1,553
	Air Sealing (Outlet Gasket)	Each	7,300	10	1,129	1,129	1,129
	Air Sealing (Switch Gasket)	Each	7,300	10	1,129	1,129	1,129
	Closed-Cell Foam Weatherstripping	Linear Feet	31,025	20	972	972	972
	<b>Total or Weighted Average</b>			<b>52,925</b>	<b>9.9</b>	<b>29,132</b>	<b>29,132</b>

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