



# Income Eligible Gas Kits Impact Evaluation Report

**Energy Efficiency Plan:  
Plan Year 2019  
(1/1/2019-12/31/2019)**

**Presented to  
Peoples Gas**

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### 1. INTRODUCTION

This report presents the results of the impact evaluation of the Peoples Gas (PGL) 2019 Income Eligible Gas Kits Program. 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 2019 covers January 1, 2019 through December 31, 2019. North Shore Gas (NSG) did not implement the Income Eligible Gas Kits Program in 2019.

### 2. PROGRAM DESCRIPTION

In November 2019, Peoples Gas began mail distribution of a free kit of self-installation energy saving measures. Contents of the kit include a showerhead, faucet aerators, weatherstripping, switch and outlet gaskets, water heater setback instructions, shower timer, window film kits, and water heater pipe insulation. The kits are being distributed to customers that have been verified as LIHEAP grant recipients and therefore validated as Income Eligible. The offer will continue in 2020.

The PGL Program had 4,946 participants in 2019 and distributed 4,946 kits in four mailing waves as shown in the following table. The kits in all four waves of distribution had the same contents.

Table 2-1. 2019 Volumetric Summary for PGL

Kit Distribution Wave	Distributed Quantity	Measure Composition
Kit Distribution 1	495	
Kit Distribution 2	1,480	1 KA, 1 BA, 1 SH, 1 ST, 2x3 ft PI, 17 ft WX, 20 GA, 75 sq. ft WK, 1 WHTS Card
Kit Distribution 3	1,487	
Kit Distribution 4	1,484	
<b>Total</b>	<b>4,946</b>	

KA = Kitchen Aerator, BA = bathroom aerator, SH = showerhead, ST = shower timer, PI = pipe insulation, WX = weatherstripping, GA = outlet and switch gaskets, WK = window kit, WHTS = water heater temperature setback.  
Source: Peoples Gas tracking data and Guidehouse team analysis.

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

**Table 2-2. 2019 Distributed Measure Quantities for PGL**

Measure	Unit of Quantity	Distributed Quantity
Low-Flow Kitchen Aerator	Unit	4,946
Low-Flow Bathroom Aerator	Unit	4,946
Low-Flow Showerhead	Unit	4,946
Shower Timer	Unit	4,946
Pipe Insulation	Linear Feet	29,676
Weather-stripping	Linear Feet	84,082
Outlet and Switch Gaskets	Unit	98,920
Window Kit	Square Feet	370,950
Water Heater Temperature Setback	Card	4,946

Source: Peoples Gas tracking data and Guidehouse team analysis.

### 3. SAVINGS SUMMARY

Table 3-1 summarizes the energy savings the PGL Income Eligible Gas Kits Program achieved by distribution wave in 2019.

**Table 3-1. 2019 Annual Energy Savings Summary for PGL**

Kit Distribution Wave	Ex Ante Gross Savings (Therms)	Verified Gross RR*	Verified Gross Savings (Therms)	NTG†	Verified Net Savings (Therms)
Kit Distribution 1	17,904	100%	17,903	1.00	17,903
Kit Distribution 2	53,532	100%	53,528	1.00	53,528
Kit Distribution 3	53,785	100%	53,781	1.00	53,781
Kit Distribution 4	53,676	100%	53,672	1.00	53,672
<b>Total</b>	<b>178,897</b>	<b>100%</b>	<b>178,884</b>	<b>1.00</b>	<b>178,884</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) is the ratio of verified net savings to verified gross savings. The NTG is a deemed value. Source: PGL-NSG\_NTG\_History\_and\_2019\_Recommendations\_2018-10-01\_Final Faucet Aerator and Showerhead Correction 2019-04-12.xlsx, which is to be found on the Illinois SAG web site: <http://ilsag.info/net-to-gross-framework.html>.

Source: Peoples Gas tracking data and Guidehouse team analysis.



#### 4. PROGRAM SAVINGS BY MEASURE

The PGL Program includes nine measures as shown in the following table. The Window Kit and Weather-stripping measures contributed the most savings.

**Table 4-1. 2019 Annual Energy Savings by Measure for PGL**

Research Category	Ex Ante Gross Savings (Therms)	Verified Gross RR*	Verified Gross Savings (Therms)	NTG†	Verified Net Savings (Therms)
Low-Flow Kitchen Aerator	6,431	100%	6,431	1.00	6,431
Low-Flow Bathroom Aerator	2,773	100%	2,773	1.00	2,773
Low-Flow Showerhead	29,073	100%	29,073	1.00	29,073
Shower Timer	15,299	100%	15,299	1.00	15,299
Pipe Insulation	5,903	100%	5,903	1.00	5,903
Weather-stripping	35,698	100%	35,698	1.00	35,698
Outlet and Switch Gaskets	32,359	100%	32,359	1.00	32,359
Window Kit	47,247	100%	47,247	1.00	47,247
Water Heater Temperature Setback	4,102	100%	4,102	1.00	4,102
<b>Total</b>	<b>178,897‡</b>	<b>100%</b>	<b>178,884</b>	<b>1.00</b>	<b>178,884</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) is the ratio of verified net savings to verified gross savings. The NTG is a deemed value. Source: PGL-NSG\_NTG\_History\_and\_2019\_Recommendations\_2018-10-01\_Final Faucet Aerator and Showerhead Correction 2019-04-12.xlsx, which is to be found on the Illinois SAG web site: <http://ilsag.info/net-to-gross-framework.html>.

‡ The sum of ex ante gross measure savings does not equal the ex ante total savings because Peoples Gas reports energy savings per kit, not measure. The reported savings value per kit is rounded to two decimal places and causes a slight discrepancy compared with calculations at the measure level. These rounding differences caused very minor differences in total therms for the program (178,897 therms versus 178,884 therms produced a difference of 13 therms). The verified gross savings was 178,884 therms.

Source: Peoples Gas tracking data and Guidehouse team analysis.



## 5. IMPACT ANALYSIS FINDINGS AND RECOMMENDATIONS

### 5.1 Impact Parameter Estimates

Table 5-1 shows the unit 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.

**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 Kitchen Aerator	Each	1.30	1.30	100%	PGL Program Tracking Data (PTD*), Illinois TRM, v7.0†, Section 5.4.4
Low-Flow Bathroom Aerator	Each	0.56	0.56	100%	Illinois TRM, v7.0†, Section 5.4.4 and PTD
Low-Flow Showerhead	Each	5.88	5.88	100%	Illinois TRM, v7.0, Section 5.4.5 and PTD
Shower Timer	Each	3.09	3.09	100%	Illinois TRM, v7.0, Section 5.4.9 and PTD
Pipe Insulation	LN FT	0.20	0.20	100%	Illinois TRM, v7.0, Section 5.4.1 and PTD
Weather-stripping	LN FT	0.42	0.42	100%	Illinois TRM, v7.0, Section 5.6.1 and PTD
Outlet and Switch Gaskets	Each	0.33	0.33	100%	Illinois TRM, v7.0, Section 5.6.1 and PTD
Window Kit	SQ FT	0.13	0.13	100%	Illinois TRM, v8.0‡, Section 5.6.1 and PTD
Water Heater Temperature Setback	Each	0.83	0.83	100%	Illinois TRM, v7.0, Section 5.4.6 and PTD

\* Program Tracking Data (PTD) provided by Peoples Gas and North Shore Gas, extract dated January 30, 2020.

† State of Illinois Technical Reference Manual version 7.0 from <http://www.ilsag.info/technical-reference-manual.html>.

‡ State of Illinois Technical Reference Manual version 8.0 from <http://www.ilsag.info/technical-reference-manual.html>.



## **6. APPENDIX 1. IMPACT ANALYSIS METHODOLOGY**

The evaluation team determined verified gross savings for each program measure by conducting a tracking system review. The evaluation team used the Illinois TRM Version 7.0 methodology to calculate verified gross savings for all measures except the window kit measure, which used the Illinois TRM Version 8.0 methodology to calculate the verified gross savings (it was not included in TRM 7.0). The evaluation verified gross savings calculation uses non-rounded input values for per-kit unit therm savings, whereas Peoples Gas ex ante per-kit gross savings were rounded to two digits after the decimal point. These rounding differences caused very minor differences in total therms for the program (178,897 therms versus 178,884 produced a difference of 13 therms). The verified gross savings was 178,884 therms.

**7. APPENDIX 2. PROGRAM-SPECIFIC INPUTS FOR THE ILLINOIS TRC**

Table 7-1 shows the Total Resource Cost (TRC) cost-effectiveness analysis inputs available at the time of drafting this impact evaluation report. 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.

**Table 7-1. Illinois TRC Input Parameters – Peoples Gas**

Distribution Wave	Research Category	Units	Quantity	Effective Useful Life	Ex Ante Gross Savings (Therms)	Verified Gross Savings (Therms)	Verified Net Savings (Therms)
Kit 1	Low-Flow Kitchen Aerator	Unit	495	10	644	644	644
	Low-Flow Bathroom Aerator	Unit	495	10	278	278	278
	Low-Flow Showerhead	Unit	495	10	2,910	2,910	2,910
	Shower Timer	Unit	2,970	2	591	591	591
	Pipe Insulation	LN FT	495	15	1,531	1,531	1,531
	Weather-stripping	LN FT	8,415	20	3,573	3,573	3,573
	Outlet and Switch Gaskets	Unit	9,900	20	3,238	3,238	3,238
	Window Kit	SQ FT	37,125	1	4,729	4,729	4,729
	Water Heater Temp. Setback	Card	495	2	410	410	410
Kit 2	Low-Flow Kitchen Aerator	Unit	1,480	10	1,924	1,924	1,924
	Low-Flow Bathroom Aerator	Unit	1,480	10	830	830	830
	Low-Flow Showerhead	Unit	1,480	10	8,699	8,699	8,699
	Shower Timer	Unit	8,880	2	1,766	1,766	1,766
	Pipe Insulation	LN FT	1,480	15	4,578	4,578	4,578
	Weather-stripping	LN FT	25,160	20	10,682	10,682	10,682
	Outlet and Switch Gaskets	Unit	29,600	20	9,683	9,683	9,683
	Window Kit	SQ FT	111,000	1	14,138	14,138	14,138
	Water Heater Temp. Setback	Card	1,480	2	1,227	1,227	1,227
Kit 3	Low-Flow Kitchen Aerator	Unit	1,487	10	1,933	1,933	1,933
	Low-Flow Bathroom Aerator	Unit	1,487	10	834	834	834
	Low-Flow Showerhead	Unit	1,487	10	8,741	8,741	8,741
	Shower Timer	Unit	8,922	2	1,775	1,775	1,775
	Pipe Insulation	LN FT	1,487	15	4,600	4,600	4,600
	Weather-stripping	LN FT	25,279	20	10,732	10,732	10,732
	Outlet and Switch Gaskets	Unit	29,740	20	9,729	9,729	9,729
	Window Kit	SQ FT	111,525	1	14,205	14,205	14,205
	Water Heater Temp. Setback	Card	1,487	2	1,233	1,233	1,233
Kit 4	Low-Flow Kitchen Aerator	Unit	1,484	10	1,930	1,930	1,930
	Low-Flow Bathroom Aerator	Unit	1,484	10	832	832	832
	Low-Flow Showerhead	Unit	1,484	10	8,723	8,723	8,723
	Shower Timer	Unit	8,904	2	1,771	1,771	1,771
	Pipe Insulation	LN FT	1,484	15	4,590	4,590	4,590
	Weather-stripping	LN FT	25,228	20	10,711	10,711	10,711
	Outlet and Switch Gaskets	Unit	29,680	20	9,709	9,709	9,709
	Window Kit	SQ FT	111,300	1	14,176	14,176	14,176
	Water Heater Temp. Setback	Card	1,484	2	1,231	1,231	1,231
<b>Total</b>			<b>608,358</b>	<b>11.4</b>	<b>178,897*</b>	<b>178,884</b>	<b>178,884</b>

\* The sum of ex ante gross measure savings does not equal the ex ante total savings because Peoples Gas reports energy savings per kit, not measure. The reported savings value per kit is rounded to two decimal places and causes a slight discrepancy compared with calculations at the measure level. These rounding differences caused very minor differences in total therms for the program (178,897 therms versus 178,884 produced a difference of 13 therms). The verified gross savings was 178,884 therms.