

Small and Midsize Business 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 Small and Midsize Business (SMB) programs. It 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 inputs to the TRC calculations. Program year 2024 covers January 1, 2024 through December 31, 2024.

Program Description

The 2024 SMB Program is offered by PGL and NSG. The SMB Program seeks to secure energy savings through direct installation (DI) of low-cost efficiency measures¹, rebates for the installation of prescriptive (Px) retrofit measures, and custom rebates for non-prescriptive upgrades or for projects that do not follow a one-for-one replacement. A network of partner trade allies (PTA) promotes measures and assists in engaging customers to participate in site assessments to identify savings opportunities. To serve as a PTA, participation and customer satisfaction goals must be achieved. Customers using a PTA will be eligible for enhanced rebate levels.

The SMB Program offered point of sale discount for commercial food service (CFS) equipment using program delivery channels. This path’s goals are to reduce barriers for food service operators to purchasing energy efficient equipment and reduce energy usage in the commercial food service sector.

In the following tables, the Program Category were defined as either private sector or public sector participants depending on participation. An additional grouping of measures is based on whether the measure was installed in disadvantaged communities (DAC) or a non-DAC community. Participants in DAC are identified based on their census tract or zipcode. Based on SAG Policy, participants in DAC with consumption under 35,000 Therms are assigned a NTG of 1.00.

The PGL program had 140 participants in 2024 and completed 155 projects, as shown in Table 1.

Table 1. 2024 Volumetric Summary for PGL

Participation	PTA/Px	CFS	Custom	Total
Private Sector				
Participants *	88	51	1	140
Installed Projects †	100	54	1	155
Measure Types Installed ‡	28	12	1	41

* Participants are defined as unique combination of customer name and business name (account numbers data were not provided).

† Installed Projects are defined as unique project IDs.

‡ Measure types are defined as unique measures implemented by the program.

Source: Peoples Gas tracking data and Guidehouse evaluation team analysis

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

¹ The program did not offer DI measures in 2024. DI delivery path included kits for restaurant and grocery businesses.

Table 2. 2024 Installed Measure Quantities for PGL

Program Category	Program Path	Measure	Quantity Unit	Installed Quantity
Private	PTA/Px	Boiler - Steam >=2500MBH >=83% TE	MBH	5,474
	PTA/Px	Boiler Tune Up - Process	MBH	3,695
	PTA/Px	Boiler Tune Up (COM)	MBH	154,004
	PTA/Px	DCV - Kitchen	HP	2
	PTA/Px	Demand Controlled Ventilation (Gas Heating)	SQ FT	2,505
	PTA/Px	Draft Controls, > 2,000 MBH -retrofit only	MBH	29,454
	PTA/Px	Energy Star Dishwasher	Each	1
	PTA/Px	Energy Star Fryer	Each	5
	PTA/Px	Furnace > 95% AFUE (COM)	Each	2
	PTA/Px	High Speed Washer - Laundromat	lb-capacity	5,560
	PTA/Px	Large Gas Water Heater	MBH	398
	PTA/Px	Linkageless controls -for new burners	MBH	25,530
	PTA/Px	Pipe Insulation - DHW Medium 1.25-2"	LN FT	16
	PTA/Px	Pipe Insulation - DHW Small <1.25"	LN FT	5
	PTA/Px	Pipe Insulation - Steam Small 1" to 2"	LN FT	1,116
	PTA/Px	Pipe Insulation - Steam Small Fitting	LN FT	103
	PTA/Px	Steam Traps - Dry Cleaner Rep. - Audit	Each	105
	PTA/Px	Steam Traps - HVAC Repair/Rep - Audit	Each	760
	PTA/Px	Steam Traps - Industrial/Process Audit - 15 <= psig < 30	Each	2
	PTA/Px	Steam Traps - Industrial/Process Audit - 30 <= psig < 75	Each	6
	PTA/Px	Steam Traps - Industrial/Process Audit - psig <= 15	Each	21
	PTA/Px	Tankless Water Heater 0.90 UEF	Each	199
	PTA/Px	Water Heater 0.67 EF (Com)	Each	2
	PTA/Px	Water Heater 95% TE - Laundromat	MBH	995
	PTA/Px-DAC	Boiler Tune Up - Process	MBH	16,494
	PTA/Px-DAC	Energy Star Fryer	Each	4
	PTA/Px-DAC	High Speed Washer - Laundromat	lb-capacity	9,223
	PTA/Px-DAC	OzoneLaundryLaundromat	lb-capacity	5,803
	PTA/Px-DAC	Steam Traps - Dry Cleaner Rep. - Audit	Each	116
	PTA/Px-DAC	Steam Traps - HVAC Repair/Rep - Audit	Each	139
	PTA/Px-DAC	Steam Traps - Industrial/Process Audit - 75 <= psig < 125	Each	6
	PTA/Px-DAC	Steam Traps - Industrial/Process Audit - psig <= 15	Each	1
	PTA/Px-DAC	Water Heater 95% TE - Laundromat	MBH	1,194
	CFS	Combination Oven >30 Pans	Each	2
	CFS	Combination Oven Gas - <15 Pans	Each	2
	CFS	Combination Oven Gas - 15-30 Pans	Each	4
	CFS	Commercial Steam Cooker	Each	1
	CFS	Convection Oven	Each	1
	CFS	Conveyor Oven	Each	4
	CFS	Fryer Large Vat Open Deep-Vat Fryer	Each	1
	CFS	Fryer Standard Open Deep-Vat Fryer (French Fryer)	Each	48
	CFS	Griddle Dual	Each	8
	CFS	Griddle Gas	Each	10
	CFS	Infrared Salamander Broiler	Each	1
	CFS	Pasta Cooker	Each	1
	CFS-DAC	Convection Oven	Each	4

Program Category	Program Path	Measure	Quantity Unit	Installed Quantity
	CFS-DAC	Fryer Standard Open Deep-Vat Fryer (French Fryer)	Each	15
	CFS-DAC	Griddle Dual	Each	1
	CFS-DAC	Griddle Gas	Each	1
	Custom-DAC	Custom	Each	1

Source: Peoples Gas tracking data and Guidehouse evaluation team analysis

The NSG program had 46 participants in 2024 and completed 54 projects, as shown in Table 3.

Table 3. 2024 Volumetric Summary for NSG

Participation	PTA/Px	CFS	Custom	Total
Private Sector				
Participants *	42	3	1	46
Installed Projects †	50	3	1	54
Measure Types Installed ‡	8	3	1	12

* Participants are defined as unique combination of customer name and business name (account numbers data were not provided).

† Installed Projects are defined as unique project IDs.

‡ Measure types are defined as unique measures implemented by the program.

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

Table 4 summarizes the installed measure quantities 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	Installed Quantity
Private	PTA/Px	Boiler - HW 300-2500MBtu, >88% TE	MBH	999
	PTA/Px	Boiler Tune Up - Process	MBH	29,923
	PTA/Px	Energy Star Fryer	Each	5
	PTA/Px	Large Gas Water Heater	MBH	300
	PTA/Px	Pipe Insulation - Steam Small 1" to 2"	LN FT	1,270
	PTA/Px	Pipe Insulation - Steam Small Fitting	LN FT	127
	PTA/Px	Steam Traps - Dry Cleaner Rep. - Audit	Each	240
	PTA/Px-DAC	Steam Traps - Dry Cleaner Rep. - Audit	Each	49
	PTA/Px-DAC	Steam Traps - HVAC Repair/Rep - Audit	Each	18
	CFS	Combination Oven >30 Pans	Each	1
	CFS	Fryer Large Vat Open Deep-Vat Fryer	Each	1
	CFS	Griddle Gas	Each	1
	Custom	Custom	Each	1

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

Program Savings Detail

Table 5 summarizes the energy savings of the PGL SMB Program achieved by path in 2024. The savings are broken into those achieved from disadvantaged communities (DAC) or non-DAC.

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†	Verified Net Savings (Therms)
Private, Non-DAC	PTA/Px	837,132	1.00	840,182	0.93	781,368
	CFS	55,054	1.11	60,849	0.80	48,679
Private, Non-DAC Subtotal		892,186	1.01	901,031		830,047
Private, DAC	PTA/Px-DAC	335,529	1.01	337,406	1.00	337,406
	CFS-DAC	12,518	0.95	11,942	1.00	11,942
	Custom-DAC	40,943	1.44	58,806	1.00	58,806
Private, DAC Subtotal		388,990	1.05	408,154	1.00	408,154
Total		1,281,176	1.02	1,309,185		1,238,201

* 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 two decimal places.

† NTG, Net to Gross is the deemed value available on the Illinois Stakeholder Advisory Group (SAG) website: www.ilsag.info/evaluator-ntg-recommendations-for-2024/. Based on SAG Policy, participants in disadvantaged communities (DAC) based on their census tract and with consumption under 35,000 Therms are assigned a NTG of 1.00.

Source: Evaluation team analysis

Table 6 summarizes the energy savings the NSG SMB Program achieved by path 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†	Verified Net Savings (Therms)
Private, Non-DAC	PTA/Px	194,657	1.01	195,995	0.93	182,276
	CFS	1,886	0.90	1,706	0.80	1,365
	Custom	6,167	1.00	6,167	0.93	5,736
Private, Non-DAC Subtotal		202,710	1.01	203,868		189,377
Private, DAC	PTA/Px-DAC	45,792	1.01	46,046	1.00	46,046
Private, DAC Subtotal		45,792	1.01	46,046	1.00	46,046
Total		248,502	1.01	249,914		235,423

† NTG, Net to Gross is the deemed value available on the SAG website: www.ilsag.info/evaluator-ntg-recommendations-for-2024/. Based on SAG Policy, participants in disadvantaged communities (DAC) based on their census tract and with consumption under 35,000 Therms are assigned a NTG of 1.00.

Source: Evaluation team analysis

Program Savings by Measure

The PGL program includes 41 measures as shown in Table 7. The steam traps and ozone laundry measures contributed the most savings.

Table 7. 2024 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)
PTA/Px	Boiler - Steam >=2500MBH >=83% TE	4,169	1.00	4,169	0.93	3,877
PTA/Px	Boiler Tune Up - Process	3,779	1.00	3,779	0.93	3,514
PTA/Px	Boiler Tune Up (COM)	66,012	0.94	62,107	0.93	57,760
PTA/Px	DCV - Kitchen	1,548	1.00	1,548	0.93	1,440
PTA/Px	Demand Controlled Ventilation (Gas Heating)	308	1.00	308	0.93	287
PTA/Px	Draft Controls, > 2,000 MBH -retrofit only	4,519	1.00	4,519	0.93	4,202

Program Path	Savings Category	Ex Ante Gross Savings (Therms)	Verified Gross RR*	Verified Gross Savings (Therms)	NTG†	Verified Net Savings (Therms)
PTA/Px	Energy Star Dishwasher	462	1.00	462	0.93	430
PTA/Px	Energy Star Fryer	2,563	1.00	2,563	0.93	2,383
PTA/Px	Furnace > 95% AFUE (COM)	416	0.99	412	0.93	384
PTA/Px	High Speed Washer - Laundromat	15,508	1.00	15,508	0.93	14,422
PTA/Px	Large Gas Water Heater	292	1.00	292	0.93	271
PTA/Px	Linkageless controls -for new burners	14,735	1.00	14,735	0.93	13,703
PTA/Px	Pipe Insulation - DHW Medium 1.25-2"	58	1.05	61	0.93	56
PTA/Px	Pipe Insulation - DHW Small <1.25"	9	1.14	11	0.93	10
PTA/Px	Pipe Insulation - Steam Small 1" to 2"	7,453	0.59	4,404	0.93	4,095
PTA/Px	Pipe Insulation - Steam Small Fitting	527	0.77	406	0.93	378
PTA/Px	Steam Traps - Dry Cleaner Rep. - Audit	68,041	1.00	68,073	0.93	63,308
PTA/Px	Steam Traps - HVAC Repair/Rep - Audit	592,786	1.02	602,860	0.93	560,660
PTA/Px	Steam Traps - Industrial/Process Audit - 15 <= psig < 30	1,516	1.00	1,517	0.93	1,411
PTA/Px	Steam Traps - Industrial/Process Audit - 30 <= psig < 75	16,666	1.00	16,666	0.93	15,499
PTA/Px	Steam Traps - Industrial/Process Audit - psig <= 15	33,670	1.00	33,670	0.93	31,313
PTA/Px	Tankless Water Heater 0.90 UEF	141	1.11	157	0.93	146
PTA/Px	Water Heater 0.67 EF (Com)	131	1.00	131	0.93	122
PTA/Px	Water Heater 95% TE - Laundromat	1,826	1.00	1,826	0.93	1,698
CFS	Combination Oven >30 Pans	1,530	0.91	1,391	0.80	1,113
CFS	Combination Oven Gas - <15 Pans	1,016	0.97	990	0.80	792
CFS	Combination Oven Gas - 15-30 Pans	3,732	0.66	2,470	0.80	1,976
CFS	Commercial Steam Cooker	1,515	1.01	1,535	0.80	1,228
CFS	Convection Oven	127	1.65	210	0.80	168
CFS	Conveyor Oven	4,574	0.77	3,538	0.80	2,831
CFS	Fryer Large Vat Open Deep-Vat Fryer	697	0.60	421	0.80	336
CFS	Fryer Standard Open Deep-Vat Fryer (French Fryer)	33,362	1.25	41,576	0.80	33,261
CFS	Griddle Dual	4,803	1.17	5,611	0.80	4,489
CFS	Griddle Gas	2,077	0.72	1,486	0.80	1,189
CFS	Infrared Salamander Broiler	240	1.00	240	0.80	192
CFS	Pasta Cooker	1,380	1.00	1,380	0.80	1,104
PTA/Px-DAC	Boiler Tune Up - Process	16,869	1.00	16,869	1.00	16,869
PTA/Px-DAC	Energy Star Fryer	2,050	1.00	2,050	1.00	2,050
PTA/Px-DAC	High Speed Washer - Laundromat	25,725	1.00	25,725	1.00	25,725
PTA/Px-DAC	Ozone Laundry Laundromat	71,981	1.00	71,981	1.00	71,981
PTA/Px-DAC	Steam Traps - Dry Cleaner Rep. - Audit	75,170	1.00	75,204	1.00	75,204
PTA/Px-DAC	Steam Traps - HVAC Repair/Rep - Audit	108,417	1.02	110,260	1.00	110,260
PTA/Px-DAC	Steam Traps - Industrial/Process Audit - 75 <= psig < 125	31,522	1.00	31,522	1.00	31,522
PTA/Px-DAC	Steam Traps - Industrial/Process Audit - psig <= 15	1,603	1.00	1,603	1.00	1,603
PTA/Px-DAC	Water Heater 95% TE - Laundromat	2,191	1.00	2,191	1.00	2,191
CFS-DAC	Convection Oven	806	0.88	706	1.00	706

Program Path	Savings Category	Ex Ante Gross Savings (Therms)	Verified Gross RR*	Verified Gross Savings (Therms)	NTG†	Verified Net Savings (Therms)
CFS-DAC	Fryer Standard Open Deep-Vat Fryer (French Fryer)	10,429	0.99	10,349	1.00	10,349
CFS-DAC	Griddle Dual	604	1.22	738	1.00	738
CFS-DAC	Griddle Gas	678	0.22	149	1.00	149
Custom-DAC	Custom	40,943	1.44	58,806	1.00	58,806
Total		1,281,176	1.02	1,309,185		1,238,201

* 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 www.ilsag.info/evaluator-ntg-recommendations-for-2024/.

Based on SAG Policy, participants in disadvantaged communities (DAC) based on their census tract and with consumption under 35,000

Therms are assigned a NTG of 1.00.

Source: Evaluation team analysis

The NSG program includes 12 measures as shown in Table 8. The steam traps and boiler tune-up measures contributed the most savings.

Table 8. 2024 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)
PTA/Px	Boiler - HW 300-2500MBtu, >88% TE	1,503	1.00	1,502	0.93	1,397
PTA/Px	Boiler Tune Up - Process	30,603	1.00	30,603	0.93	28,461
PTA/Px	Energy Star Fryer	2,562	1.00	2,563	0.93	2,383
PTA/Px	Large Gas Water Heater	220	1.00	220	0.93	205
PTA/Px	Pipe Insulation - Steam Small 1" to 2"	4,046	1.24	5,011	0.93	4,661
PTA/Px	Pipe Insulation - Steam Small Fitting	199	2.52	501	0.93	466
PTA/Px	Steam Traps - Dry Cleaner Rep. - Audit	155,523	1.00	155,595	0.93	144,704
CFS	Combination Oven >30 Pans	685	1.02	696	0.80	557
CFS	Fryer Large Vat Open Deep-Vat Fryer	611	0.69	421	0.80	336
CFS	Griddle Gas	590	1.00	590	0.80	472
Custom	Custom	6,167	1.00	6,167	0.93	5,736
PTA/Px-DAC	Steam Traps - Dry Cleaner Rep. - Audit	31,753	1.00	31,767	1.00	31,767
PTA/Px-DAC	Steam Traps - HVAC Repair/Rep - Audit	14,040	1.02	14,278	1.00	14,278
Total		248,502	1.01	249,914		235,423

* 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 www.ilsag.info/evaluator-ntg-recommendations-for-2024/.

Based on SAG Policy, participants in disadvantaged communities (DAC) based on their census tract and with consumption under 35,000

Therms are assigned a NTG of 1.00.

Source: Evaluation team analysis

Impact Analysis Findings and Recommendations

1.1 Impact Parameter Estimates

Table 9 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. Following the table, we provide findings and recommendations, including a discussion of all measures with realization rates above or below 100 percent. Appendix 1 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)
Boiler - HW 300-2500MBtu, >88% TE	MBH	1.5	1.5	1.00	Illinois TRM v12.0, Section 4.4.10
Boiler - Steam >=2500MBH >=83% TE	MBH	0.76	0.76	1.00	Illinois TRM v12.0, Section 4.4.10
Boiler Tune Up - Process	MBH	1.02	1.02	1.00	Illinois TRM v12.0, Section 4.4.3
Boiler Tune Up (COM)	MBH	0.43	0.4	0.93	Illinois TRM v12.0, Section 4.4.3
Combination Oven >30 Pans	Each	738.35	695.67	0.94	Illinois TRM v12.0, Section 4.2.1
Combination Oven Gas - <15 Pans	Each	508.23	494.75	0.97	Illinois TRM v12.0, Section 4.2.1
Combination Oven Gas - 15-30 Pans	Each	932.89	617.52	0.66	Illinois TRM v12.0, Section 4.2.1
Commercial Steam Cooker	Each	1,514.66	1,535.4	1.01	Illinois TRM v12.0, Section 4.2.3
Convection Oven	Each	186.77	183.29	0.98	Illinois TRM v12.0, Section 4.2.5
Conveyor Oven	Each	1,143.61	884.56	0.77	Illinois TRM v12.0, Section 4.2.4
DCV - Kitchen	HP	774	774	1.00	Illinois TRM v12.0, Section 4.2.16
Demand Controlled Ventilation (Gas Heating)	SQ FT	0.12	0.12	1.00	Illinois TRM v12.0, Section 4.4.19
Draft Controls, > 2,000 MBH -retrofit only	MBH	0.15	0.15	1.00	Illinois TRM v12.0, Section 4.4.21
Energy Star Dishwasher	Each	462	462	1.00	Illinois TRM v12.0, Section 4.2.6
Energy Star Fryer	Each	512.5	512.5	1.00	Illinois TRM v12.0, Section 4.2.7
Fryer Large Vat Open Deep-Vat Fryer	Each	654.09	420.6	0.64	Illinois TRM v12.0, Section 4.2.7
Fryer Standard Open Deep-Vat Fryer (French Fryer)	Each	695.1	824.21	1.19	Illinois TRM v12.0, Section 4.2.7
Furnace > 95% AFUE (COM)	Each	208.21	206.24	0.99	Illinois TRM v12.0, Section 4.4.11
Griddle Dual	Each	600.70	705.46	1.17	Illinois TRM v12.0, Section 4.2.8
Griddle Gas	Each	278.81	185.44	0.67	Illinois TRM v12.0, Section 4.2.8
High Speed Washer - Laundromat	lb-capacity	2.79	2.79	1.00	Illinois TRM v12.0, Section 4.8.5
Infrared Salamander Broiler	Each	240	240	1.00	Illinois TRM v12.0, Section 4.2.14
Large Gas Water Heater	MBH	0.73	0.73	1.00	Illinois TRM v12.0, Section 4.3.1
Linkageless controls -for new burners	MBH	0.58	0.58	1.00	Illinois TRM v12.0, Section 4.4.21
Ozone Laundry Laundromat	lb-capacity	12.4	12.4	1.00	Illinois TRM v12.0, Section 4.3.6
Pasta Cooker	Each	1,380	1,380	1.00	Illinois TRM v12.0, Section 4.2.17

Measure	Unit Basis	Ex Ante Gross (therms/unit)	Verified Gross (therms/unit)	Realization Rate	Data Source(s)
Pipe Insulation - DHW Medium 1.25-2"	LN FT	3.63	3.79	1.04	Illinois TRM v12.0, Section 4.4.14
Pipe Insulation - DHW Small <1.25"	LN FT	1.88	2.15	1.14	Illinois TRM v12.0, Section 4.4.14
Pipe Insulation - Steam Small 1" to 2"	LN FT	4.82	3.95	0.82	Illinois TRM v12.0, Section 4.4.14
Pipe Insulation - Steam Small Fitting	LN FT	3.16	3.95	1.25	Illinois TRM v12.0, Section 4.4.14
Steam Traps - Dry Cleaner Rep. - Audit	Each	648.01	648.31	1.00	Illinois TRM v12.0, Section 4.4.16
Steam Traps - HVAC Repair/Rep - Audit	Each	779.98	793.24	1.02	Illinois TRM v12.0, Section 4.4.16
Steam Traps - Industrial/Process Audit - 15 <= psig < 30	Each	758.17	758.41	1.00	Illinois TRM v12.0, Section 4.4.16
Steam Traps - Industrial/Process Audit - 30 <= psig < 75	Each	2,777.66	2,777.67	1.00	Illinois TRM v12.0, Section 4.4.16
Steam Traps - Industrial/Process Audit - 75 <= psig < 125	Each	5,253.73	5,253.73	1.00	Illinois TRM v12.0, Section 4.4.16
Steam Traps - Industrial/Process Audit - psig <= 15	Each	1,603.33	1,603.33	1.00	Illinois TRM v12.0, Section 4.4.16
Tankless Water Heater 0.90 UEF	Each	0.71	0.79	1.11	Illinois TRM v12.0, Section 4.3.1
Water Heater 0.67 EF (Com)	Each	65.62	65.62	1.00	Illinois TRM v12.0, Section 4.3.1
Water Heater 95% TE - Laundromat	MBH	1.84	1.84	1.00	Illinois TRM v12.0, Section 4.3.1
Custom	Each	Vary	Vary	1.38	Project File Review, Monthly Billing Data, Site Verification

* 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 www.ilsag.info/technical-reference-manual.html.

‡ Project files and monthly billing data provided by Peoples Gas and North Shore Gas. When conducted, on-site and telephone interview data collected by Guidehouse.

1.2 Findings and Recommendations

Finding 1. For the Tankless Water measure under the PGL program, the evaluation team calculated gross realization rates of 111% using IL TRM v12 default values. Evaluators used the 199 MBH value in the tracker file to select the IL TRM v12 gas storage tank capacity default option of 120 gallons for the baseline case. Specifically, the IL TRM v12 “Definition of Draw Pattern” table was used for Commercial Gas Storage Water Heaters >155,000 Btu/h in selecting the gas storage tank capacity value. The building type provided is a brewery with some retail sales and other facility uses. The evaluator categorized the building type as “Other Commercial” based on this information.

Recommendation 1. Therm savings are dependent on selecting the appropriate building type and baseline gas storage tank capacity in the calculation. The implementor should carefully apply the IL TRM v12 default values in ex ante savings calculations.

Finding 2. For the Steam Traps – HVAC Repair/Rep – Audit measure under both the PGL Program and NSG Program, the evaluation team calculated gross realization rates of 102% using IL TRM v12 default values. The implementer team applied inconsistent building types to ex-ante savings in the tracking data, which evaluation corrected to align with the TRM inputs. For example, we applied the TRM annual hours that the steam system is pressurized for a college/university building type (e.g., WO-5943049) differently from a church facility (e.g., WO-5602471). The IL TRM v12 default annual hours when unknown is 8,282 hr.

Recommendation 2. The implementor should carefully apply the IL TRM default values for building types in ex ante savings calculations. If custom hours are considered, notate the values in the tracking data.

Finding 3. Pipe insulation measures had varying verified gross realization rates. The evaluation team used 3E Plus v4.1 in its heat loss calculation and IL TRM v12 default values in calculating gross therm savings. The implementor uses 3E Plus values for heat loss in calculations but the sources used for many inputs were not provided.

Recommendation 3. The implementor should provide the sources of all inputs used in the pipe insulation calculation.

Finding 4. For the Boiler Tune-up (COM) measures under the PGL program, the evaluation team calculated gross realization rates of 94%, using IL TRM v12 default values. In most cases, the evaluation team agrees with the building types and the EFLH value used by the implementer, but using the heating capacity values provided in the quantity field produced different savings realization rates for some projects (e.g., WO-5779217, WO-5893217, WO-5784864, and WO-5884622).

Recommendation 4. Therm savings are highly dependent on the boiler capacity used in the calculation. Ensure the program data inputs are used adequately to calculate savings for Boiler Tune-up (COM) measures.

Finding 5. The evaluation team compares tracking data inputs against the Energy Star Qualified Product List (QPL) according to manufacturer and model number for Food Service Equipment. There are a few instances where the evaluation team could not utilize the QPL and therefore defaulted to the TRM. CFS measures had varying verified gross realization rates as presented in Table 9.

Recommendation 5. The program tracking data should be updated to provide the required information for all measures for verifying the ex ante savings. It is important that manufacturer information, including product model numbers, be provided for all equipment. Also, equipment installed under the CFS program should be listed on the current Energy Star QPL. Any custom data inputs used to estimate ex ante savings that are different from Energy Star QPL values should be noted and explained.

Finding 6. For Custom project WO-5912071, the evaluation team calculated a gross realization rate of 144%. The evaluation team could not interpret the ex ante calculation, therefore, the savings calculation methodology was revised to capture baseline usage and post installation usage separately based on water temperatures and flows. In the updated verified calculations, the heat reclamation savings were accounted for using a higher water inlet temperature for a portion of the flow. The verified savings were 58,806 therms compared to the ex ante value of 40,943 therms.

Recommendation 6. The implementor team should provide sufficient detail in its calculation to introduce the calculation methodology to support the resultant savings.

Appendix A. Impact Analysis Methodology

Guidehouse calculated the verified gross savings for each measure type by conducting a review of the tracking data and applying the algorithms of the IL TRM v12.² The evaluation team checked that the provided savings inputs from the tracking data matched the TRM and that custom inputs were properly used. Then, the tracking data and custom values used for the verified savings were adjusted from the tracking data, as necessary. The savings algorithms were applied to determine the verified savings of each measure. Verified gross realization rates are calculated by dividing the verified savings by the ex ante gross savings.

For measures in the CFS path, Guidehouse performed an additional tracking data verification step. For measures defined in the IL TRM v12 as needing to be under ENERGY STAR certification, the evaluation team compared their efficient ENERGY STAR tracking data values to the ENERGY STAR QPLs³ by manufacturer and model number; the team then updated tracking data values when these two documents disagreed. The evaluation team performed supplemental research for specification sheets for measures that did not need to be under ENERGY STAR certification as defined in the IL TRM v12. This approach aligns with the process taken for the ComEd and Nicor Gas evaluations.

The evaluation team calculated verified net savings by multiplying the verified gross savings estimates by a NTGR deemed by a consensus process through the SAG.⁴ DAC areas were identified by census track and the evaluation used a NTG of 1.00 for projects in DAC areas, based on the Illinois Policy Manual 3.0.⁵

² Available on the SAG website: www.ilsag.info/technical-reference-manual/il-statewide-technical-reference-manual-version-12-0/

³ Found on the ENERGY STAR website: www.energystar.gov/products/commercial_food_service_equipment

⁴ Available on the SAG website www.ilsag.info/evaluator-ntg-recommendations-for-2023/

⁵ www.ilsag.info/wp-content/uploads/IL_EE_Policy_Manual_Version_3.0_Final_11-3-2023

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	Early Replacement Flag†	Verified Gross Annual Water Savings (Gallons)	Ex Ante Gross Savings (Therms)	Verified Gross Savings (Therms)	Verified Net Savings (Therms)
Private	PTA/Px	Boiler - Steam >=2500MBH >=83% TE	FALSE	MBH	5,474	25.00	NO		4,169	4,169	3,877
	PTA/Px	Boiler Tune Up - Process	FALSE	MBH	3,695	3.00	NO		3,779	3,779	3,514
	PTA/Px	Boiler Tune Up (COM)	FALSE	MBH	154,004	3.00	NO		66,012	62,107	57,760
	PTA/Px	DCV - Kitchen	FALSE	HP	2.00	20.00	NO		1,548	1,548	1,440
	PTA/Px	Demand Controlled Ventilation (Gas Heating)	FALSE	SQ FT	2,505	10.00	NO		308	308	287
	PTA/Px	Draft Controls, > 2,000 MBH -retrofit only	FALSE	MBH	29,454	20.00	NO		4,519	4,519	4,202
	PTA/Px	Energy Star Dishwasher	FALSE	Each	1	15.00	NO		462	462	430
	PTA/Px	Energy Star Fryer	FALSE	Each	5	12.00	NO		2,563	2,563	2,383
	PTA/Px	Furnace > 95% AFUE (COM)	FALSE	Each	2	16.00	NO		416	412	384
	PTA/Px	High Speed Washer - Laundromat	FALSE	lb-capacity	5,560	7.00	NO		15,508	15,508	14,422
	PTA/Px	Large Gas Water Heater	FALSE	MBH	398	15.00	NO		292	292	271
	PTA/Px	Linkageless controls -for new burners	FALSE	MBH	25,530	16.00	NO		14,735	14,735	13,703
	PTA/Px	Pipe Insulation - DHW Medium 1.25-2"	FALSE	LN FT	16.00	15.00	NO		58.00	61.00	56.00
	PTA/Px	Pipe Insulation - DHW Small <1.25"	FALSE	LN FT	5.00	15.00	NO		9.00	11.00	10.00
	PTA/Px	Pipe Insulation - Steam Small 1" to 2"	FALSE	LN FT	1,116	15.00	NO		7,453	4,404	4,095
	PTA/Px	Pipe Insulation - Steam Small Fitting	FALSE	LN FT	103	15.00	NO		527	406	378
	PTA/Px	Steam Traps - Dry Cleaner Rep. - Audit	FALSE	Each	105	6.00	NO	565,268	68,041	68,073	63,308
	PTA/Px	Steam Traps - HVAC Repair/Rep - Audit	FALSE	Each	760	6.00	NO	10,448,571	592,786	602,860	560,660
	PTA/Px	Steam Traps - Industrial/Process Audit - 15 <= psig < 30	FALSE	Each	2	6.00	NO	12,920	1,516	1,517	1,411
	PTA/Px	Steam Traps - Industrial/Process Audit - 30 <= psig < 75	FALSE	Each	6	6.00	NO	139,635	16,666	16,666	15,499
	PTA/Px	Steam Traps - Industrial/Process Audit - psig <= 15	FALSE	Each	21	6.00	NO	288,711	33,670	33,670	31,313
	PTA/Px	Tankless Water Heater 0.90 UEF	FALSE	Each	199	20.00	NO		141	157	146
	PTA/Px	Water Heater 0.67 EF (Com)	FALSE	Each	2.00	15.00	NO		131	131	122
	PTA/Px	Water Heater 95% TE - Laundromat	FALSE	MBH	995	15.00	NO		1,826	1,826	1,698
CFS		Combination Oven >30 Pans	FALSE	Each	2	12.00	NO		1,530	1,391	1,113
CFS		Combination Oven Gas - <15 Pans	FALSE	Each	2	12.00	NO		1,016	990	792
CFS		Combination Oven Gas - 15-30 Pans	FALSE	Each	4	12.00	NO		3,732	2,470	1,976
CFS		Commercial Steam Cooker	FALSE	Each	1	12.00	NO		1,515	1,535	1,228
CFS		Convection Oven	FALSE	Each	1	12.00	NO		127	210	168
CFS		Conveyor Oven	FALSE	Each	4	12.00	NO		4,574	3,538	2,831
CFS		Fryer Large Vat Open Deep-Vat Fryer	FALSE	Each	1	12.00	NO		697	421	336
CFS		Fryer Standard Open Deep-Vat Fryer (French Fryer)	FALSE	Each	48	12.00	NO		33,362	41,576	33,261
CFS		Griddle Dual	FALSE	Each	8	12.00	NO		4,803	5,611	4,489
CFS		Griddle Gas	FALSE	Each	10	12.00	NO		2,077	1,486	1,189
CFS		Infrared Salamander Broiler	FALSE	Each	1	12.00	NO		240	240	192
CFS		Pasta Cooker	FALSE	Each	1	12.00	NO		1,380	1,380	1,104
	PTA/Px-DAC	Boiler Tune Up - Process	TRUE	MBH	16,494	3.00	NO		16,869	16,869	16,869
	PTA/Px-DAC	Energy Star Fryer	TRUE	Each	4	12.00	NO		2,050	2,050	2,050
	PTA/Px-DAC	High Speed Washer - Laundromat	TRUE	lb-capacity	9,223	7.00	NO		25,725	25,725	25,725
	PTA/Px-DAC	OzoneLaundryLaundromat	TRUE	lb-capacity	5,803	10.00	NO	1,386,917	71,981	71,981	71,981
	PTA/Px-DAC	Steam Traps - Dry Cleaner Rep. - Audit	TRUE	Each	116	6.00	NO	624,486	75,170	75,204	75,204
	PTA/Px-DAC	Steam Traps - HVAC Repair/Rep - Audit	TRUE	Each	139	6.00	NO	1,910,989	108,417	110,260	110,260
	PTA/Px-DAC	Steam Traps - Industrial/Process Audit - 75 <= psig < 125	TRUE	Each	6.00	6.00	NO	261,380	31,522	31,522	31,522
	PTA/Px-DAC	Steam Traps - Industrial/Process Audit - psig <= 15	TRUE	Each	1	6.00	NO	13,748	1,603	1,603	1,603
	PTA/Px-DAC	Water Heater 95% TE - Laundromat	TRUE	MBH	1,194	15.00	NO		2,191	2,191	2,191
	CFS-DAC	Convection Oven	TRUE	Each	4	12.00	NO		806	706	706

Program Category	Program Path	Savings Category	DAC Project	Units	Quantity	Effective Useful Life	Early Replacement Flag†	Verified Gross Annual Water Savings (Gallons)	Ex Ante Gross Savings (Therms)	Verified Gross Savings (Therms)	Verified Net Savings (Therms)
	CFS-DAC	Fryer Standard Open Deep-Vat Fryer (French Fryer)	TRUE	Each	15	12.00	NO		10,429	10,349	10,349
	CFS-DAC	Griddle Dual	TRUE	Each	1	12.00	NO		604	738	738
	CFS-DAC	Griddle Gas	TRUE	Each	1	12.00	NO		678	149	149
	Custom-DAC	Custom	TRUE	Each	1	1.00	NO		40,943	58,806	58,806
Total or Weighted Average						7.27		15,652,625	1,281,176	1,309,185	1,238,201

Source: Evaluation team analysis

Table B-2. Verified Cost Effectiveness Inputs – NSG

Program Category	Program Path	Savings Category	DAC Project	Units	Quantity	Effective Useful Life	Early Replacement Flag†	Verified Gross Annual Water Savings (Gallons)	Ex Ante Gross Savings (Therms)	Verified Gross Savings (Therms)	Verified Net Savings (Therms)
Private	PTA/Px	Boiler - HW 300-2500MBtu, >88% TE	FALSE	MBH	999	25.00	NO		1,503	1,502	1,397
	PTA/Px	Boiler Tune Up - Process	FALSE	MBH	29,923	3.00	NO		30,603	30,603	28,461
	PTA/Px	Energy Star Fryer	FALSE	Each	5	12.00	NO		2,562	2,563	2,383
	PTA/Px	Large Gas Water Heater	FALSE	MBH	300	15.00	NO		220	220	205
	PTA/Px	Pipe Insulation - Steam Small 1" to 2"	FALSE	LN FT	1,270	15.00	NO		4,046	5,011	4,661
	PTA/Px	Pipe Insulation - Steam Small Fitting	FALSE	LN FT	127	15.00	NO		199	501	466
	PTA/Px	Steam Traps - Dry Cleaner Rep. - Audit	FALSE	Each	240	6.00	NO	1,292,040	155,523	155,595	144,704
	CFS	Combination Oven >30 Pans	FALSE	Each	1	12.00	NO		685	696	557
	CFS	Fryer Large Vat Open Deep-Vat Fryer	FALSE	Each	1	12.00	NO		611	421	336
	CFS	Griddle Gas	FALSE	Each	1	12.00	NO		590	590	472
	Custom	Custom	FALSE	Each	1	1.00	NO		6,167	6,167	5,736
	PTA/Px-DAC	Steam Traps - Dry Cleaner Rep. - Audit	TRUE	Each	49	6.00	NO	263,792	31,753	31,767	31,767
	PTA/Px-DAC	Steam Traps - HVAC Repair/Rep - Audit	TRUE	Each	18	6.00	NO	248,361	14,040	14,278	14,278
Total or Weighted Average						4.32		1,804,193	248,502	249,914	235,423

Source: Evaluation team analysis