Guidehouse

Small and Midsize Business Program Impact Evaluation Report

Energy Efficiency Plan: Program Year 2025

(01/01/2025-12/31/2025)

Prepared for:

Peoples Gas and North Shore Gas

PEOPLES GAS® | NORTH SHORE GAS®

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Table of Contents

Table of Tables, Figures, and Equations

1 Introduction

This report presents the results of the impact evaluation of the Peoples Gas (PGL) and North Shore Gas (NSG) 2025 Small and Midsize Business (SMB) program. It presents a summary of the energy impacts for the total program and broken out by relevant measure and program structure details. The program covered only private sector measures in 2025. The appendices present the impact analysis methodology and inputs to the TRC calculations. Program year 2025 covers January 1 to December 31, 2025.

2 Program Description

The 2025 SMB Program is offered by PGL and NSG. The SMB Program seeks to secure energy savings through 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 several tables in this report, measures are separated into those that were installed in disadvantaged communities (DAC) or a non-DAC community. Participants in DAC are identified based on their census tract. Based on SAG Policy, business participants in a DAC with consumption under 35,000 Therms are assigned a NTG of 1.00.

The PGL program had 82 participants in 2025 and completed 83 projects as shown in Table 1.

Table 1. 2025 Volumetric Summary for PGL

Participation	PTA	Px	CFS	Custom	Total
Participants *	36	20	22	4	82
Installed Projects †	36	20	23	4	83
Measure Types Installed ‡	10	13	6	4	29

** Participants are defined as unique combination of customer name and business name.*
† 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 evaluation team analysis.

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

Table 2. 2025 Installed Measure Quantities for PGL

Program Path	Measure	Quantity Unit	Installed Quantity
PTA	Boiler Tune Up - Process	MBH	6,000
	Boiler Tune Up (COM)	MBH	16,000
	Steam Pipe Insulation	LN FT	3,137
	Steam Pipe Insulation - Fitting	LN FT	313
	Steam Traps - Dry Cleaner Rep. - Audit	Each	17
	Steam Traps - HVAC Repair/Rep - Audit	Each	520
	Steam Traps-Industrial/Process Audit > 30 psig	Each	4
	Steam Traps - Industrial/Process Audit - 15 <= psig < 30	Each	5
Px	Boiler - HW <=300MBtu >=88% AFUE (COM)	MBH	1,198
	Boiler - HW 300-2500MBtu >88% TE	MBH	5,000
	Boiler Tune Up - Process	MBH	14,999
	Boiler Tune Up (COM)	MBH	722
	Demand Controlled Ventilation (Gas Heating)	SQ FT	153,600
	Large Gas Water Heater	MBH	796
	Linkageless controls -for new burners	MBH	46,200
	Smart Thermostat	Each	4
	Steam Traps - Dry Cleaner Rep. - Audit	Each	5
	Tankless Water Heater 0.90 UEF	Each	1,194
CFS	Combination Oven Gas - <15 Pans	Each	16
	Convection Oven	Each	2
	Fryer Standard Open Deep-Vat Fryer (French Fryer)	Each	7
	Gas Cooktops	Each	6
	Griddle Dual	Each	1
	High Efficiency Pre-Rinse Spray Valve	Each	4
PTA-DAC	Boiler - HW 300-2500MBtu >88% TE	MBH	5,663
	Boiler Tune Up (COM)	MBH	1,439
	HW Pipe Insulation	LN FT	200
	Steam Pipe Insulation	LN FT	360
	Steam Pipe Insulation - Fitting	LN FT	20
	Steam Traps - Dry Cleaner Rep. - Audit	Each	23
	Steam Traps - HVAC Repair/Rep - Audit	Each	110
	Steam Traps - HVAC Repair/Rep - No Audit	Each	74
Px-DAC	Boiler Reset Controls	MBH	1,250
	Boiler Tune Up (COM)	MBH	3,012
	Demand Controlled Ventilation (Gas Heating)	SQ FT	133,203
	Ozone Laundry Laundromat	lb-capacity	1,995
	Smart Thermostat	Each	2
	Steam Traps - HVAC Repair/Rep - No Audit	Each	87
	Tankless Water Heater 0.90 UEF	Each	398
CFS-DAC	Combination Oven Gas - <15 Pans	Each	6
	Convection Oven	Each	1
	Fryer Standard Open Deep-Vat Fryer (French Fryer)	Each	3

Program Path	Measure	Quantity Unit	Installed Quantity
	Griddle Dual	Each	1
Custom	HVAC - Other - PG SB Custom	Each	1
	Process - Insulation >212 F - PG SB Custom	Each	1
	Micro Combined Heat and Power - PG SB Custom	Each	1
	Gas Absorption Heat Pump - PG SB Custom - DAC	Each	1

Source: Peoples Gas tracking data and evaluation team analysis.

The NSG program had 57 participants in 2025 and completed 58 projects as shown in Table 3.

Table 3. 2025 Volumetric Summary for NSG

Participation	PTA	Px	CFS	Custom	Total
Participants *	33	16	8	0	57
Installed Projects †	33	16	9	0	58
Measure Types Installed ‡	1	14	6	0	20

** Participants are defined as unique combination of customer name and business name.*
† 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. 2025 Installed Measure Quantities for NSG

Program Path	Measure	Quantity Unit	Installed Quantity
PTA	Steam Traps - Dry Cleaner Rep. - Audit	Each	214
Px	Boiler Tune Up - Process	MBH	2,307
	DCV - Kitchen	HP	10
	Demand Controlled Ventilation (Gas Heating)	SQ FT	145,300
	Energy Star Convection Oven	Each	1
	Energy Star Dishwasher	Each	2
	Energy Star Double Rack Oven	Each	1
	Energy Star Fryer	Each	2
	Furnace > 95% AFUE (COM)	Each	1
	Large Gas Water Heater	MBH	399
	Makeup Air Unit	CFM	3,800
	Programmable Thermostat	Each	12
	Smart Thermostat	Each	1
	Steam Traps - Dry Cleaner Rep. - Audit	Each	12
	Tankless Water Heater 0.90 UEF	Each	3,390
CFS	Combination Oven >30 Pans	Each	2
	Combination Oven Gas - <15 Pans	Each	4
	Dishwasher High Temp - Under Counter - Gas Bldg - Elec Boost	Each	3
	Fryer Large Vat Open Deep-Vat Fryer	Each	1

Program Path	Measure	Quantity Unit	Installed Quantity
	Fryer Standard Open Deep-Vat Fryer (French Fryer)	Each	1
PTA-DAC	Steam Traps - Dry Cleaner Rep. - Audit	Each	51
Px-DAC	DCV - Kitchen	HP	3
	Energy Star Dishwasher	Each	1
	Energy Star Fryer	Each	1
	Furnace > 95% AFUE (COM)	Each	1
	Tankless Water Heater 0.90 UEF	Each	398
CFS-DAC	Automatic Conveyer Broiler Commercial > 26" Conveyor Width	Each	1

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

3 Program Savings Detail

Table 5 summarizes the energy savings the PGL SMB Prescriptive Program achieved by path in 2025.

Table 5. 2025 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)
Non-DAC	PTA	472,917	98%	465,807	0.93	433,200
	Px	65,912	96%	62,986	0.93	58,598
	CFS	20,107	83%	16,712	0.80	13,370
	Custom	8,378	102%	8,576	0.93	7,976
Non-DAC Subtotal		**567,314**	**98%**	**554,081**	**0.93**	**513,144**
DAC	PTA	141,353	91%	128,517	1.00	128,517
	Px	51,253	100%	51,210	1.00	51,210
	Custom	840	100%	840	1.00	840
	CFS	6,459	97%	6,276	1.00	6,276
DAC Subtotal		**199,906**	**93%**	**186,843**	**1.00**	**186,843**
Total		**767,220**	**97%**	**740,924**		**699,987**

Note: Savings and realization rates presented in this table are rounded and may not sum precisely to the total.
** 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: https://www.ilsag.info/evaluator-ntg-recommendations-for-2025/. The Px NTG is 0.93 for all measures, except for thermostats, which is 0.97.
Source: Evaluation team analysis.

Table 6 summarizes the energy savings the NSG SMB Prescriptive Program achieved by path in 2025.

Table 6. 2025 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)
Non-DAC	PTA	251,493	55%	138,674	0.93	128,967
	Px	32,629	79%	25,920	0.93	24,173
	CFS	7,368	69%	5,064	0.80	4,051
Non-DAC Subtotal		**291,490**	**58%**	**169,658**		**157,191**
DAC	PTA	60,979	54%	33,048	1.00	33,048
	Px	2,418	99%	2,402	1.00	2,402
	CFS	862	103%	884	1.00	884
DAC Subtotal		**64,259**	**57%**	**36,334**	**1.00**	**36,334**
Total		**355,749**	**58%**	**205,992**		**193,525**

Note: Savings and realization rates presented in this table are rounded and may not sum precisely to the total.
** 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: https://www.ilsag.info/evaluator-ntg-recommendations-for-2025/. The Px NTG is 0.93 for all measures, except for thermostats, which is 0.97.
Source: Evaluation team analysis.

4 Program Savings by Measure

The PGL program savings are presented by measure savings category in Table 7, indicating which measures are in the DAC or non-DAC zone. The steam traps and pipe insulation measures contributed the most savings, followed by boiler tune-ups.

Table 7. 2025 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	Boiler Tune Up - Process	6,136	100%	6,136	0.93	5,706
	Boiler Tune Up (COM)	5,978	100%	5,978	0.93	5,559
	Steam Pipe Insulation	24,671	100%	24,671	0.93	22,944
	Steam Pipe Insulation - Fitting	2,210	100%	2,210	0.93	2,056
	Steam Traps - Dry Cleaner Rep. - Audit	20,326	54%	11,016	0.93	10,245
	Steam Traps - HVAC Repair/Rep - Audit	403,692	100%	405,606	0.93	377,216
	Steam Traps - Industrial/Process Audit - 15 <= psig < 30	3,790	100%	3,790	0.93	3,525
	Steam Traps-Industrial/Process Audit > 30 psig	6,129	105%	6,413	0.93	5,964
Px	Boiler - HW <=300MBtu >=88% AFUE (COM)	818	100%	818	0.93	761
	Boiler - HW 300-2500MBtu >88% TE	8,390	100%	8,389	0.93	7,802

Program Path	Savings Category	Ex Ante Gross Savings (Therms)	Verified Gross RR*	Verified Gross Savings (Therms)	NTG†	Verified Net Savings (Therms)
	Boiler Tune Up - Process	15,340	100%	15,340	0.93	14,266
	Boiler Tune Up (COM)	306	100%	306	0.93	284
	Demand Controlled Ventilation (Gas Heating)	5,376	100%	5,376	0.93	4,999
	Large Gas Water Heater	735	100%	735	0.93	684
	Linkageless controls -for new burners	27,305	100%	27,305	0.93	25,394
	Smart Thermostat	528	100%	528	0.97	512
	Steam Traps - Dry Cleaner Rep. - Audit	5,978	54%	3,240	0.93	3,013
	Tankless Water Heater 0.90 UEF	1,132	83%	944	0.93	878
CFS	Combination Oven Gas - <15 Pans	9,171	98%	8,990	0.80	7,192
	Convection Oven	563	100%	561	0.80	449
	Fryer Standard Open Deep-Vat Fryer (French Fryer)	9,537	66%	6,334	0.80	5,067
	Gas Cooktops	407	100%	407	0.80	325
	Griddle Dual	291	97%	282	0.80	226
	High Efficiency Pre-Rinse Spray Valve	136	100%	136	0.80	109
Custom	HVAC - Other - PG SB Custom	2,308	100%	2,308	0.93	2,146
	Process - Insulation >212 F - PG SB Custom	1,613	90%	1,453	0.93	1,351
	Micro Combined Heat and Power - PG SB Custom	4,458	108%	4,815	0.93	4,478
PTA-DAC	Boiler - HW 300-2500MBtu >88% TE	6,062	100%	6,062	1.00	6,062
	Boiler Tune Up (COM)	702	100%	702	1.00	702
	HW Pipe Insulation	531	100%	531	1.00	531
	Steam Pipe Insulation	4,611	100%	4,611	1.00	4,611
	Steam Pipe Insulation - Fitting	323	100%	323	1.00	323
	Steam Traps - Dry Cleaner Rep. - Audit	27,500	54%	14,904	1.00	14,904
	Steam Traps - HVAC Repair/Rep - Audit	86,000	100%	85,797	1.00	85,797
	Steam Traps - HVAC Repair/Rep - No Audit	15,620	100%	15,584	1.00	15,584
Px-DAC	Boiler Reset Controls	1,678	100%	1,678	1.00	1,678
	Boiler Tune Up (COM)	1,278	100%	1,278	1.00	1,278
	Demand Controlled Ventilation (Gas Heating)	4,662	100%	4,662	1.00	4,662
	Ozone Laundry Laundromat	24,746	100%	24,746	1.00	24,746
	Smart Thermostat	240	100%	240	1.00	240
	Steam Traps - HVAC Repair/Rep - No Audit	18,364	100%	18,321	1.00	18,321

Program Path	Savings Category	Ex Ante Gross Savings (Therms)	Verified Gross RR*	Verified Gross Savings (Therms)	NTG†	Verified Net Savings (Therms)
	Tankless Water Heater 0.90 UEF	282	100%	282	1.00	282
CFS-DAC	Combination Oven Gas - <15 Pans	3,398	98%	3,320	1.00	3,320
	Convection Oven	540	78%	420	1.00	420
	Fryer Standard Open Deep-Vat Fryer (French Fryer)	2,228	101%	2,252	1.00	2,252
	Griddle Dual	291	97%	282	1.00	282
Custom-DAC	Gas Absorption Heat Pump - PG SB Custom - DAC	840	100%	840	1.00	840
Total		**767,220**	**97%**	**740,924**		**699,987**

Note: Savings and realization rates presented in this table are rounded and may not sum precisely to the total.
** 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: https://www.ilsag.info/evaluator-ntg-recommendations-for-2025/.
Source: Evaluation team analysis.

The NSG program savings are presented by measure savings category in Table 8, indicating which measures are in the DAC or non-DAC zone. The steam traps and DCV measures contributed the most savings, followed by boiler tune-ups.

Table 8. 2025 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	Steam Traps - Dry Cleaner Rep. - Audit	251,499	55%	138,682	0.93	128,979
Px	Boiler Tune Up - Process	2,359	100%	2,359	0.93	2,194
	DCV - Kitchen	2,133	100%	2,133	0.93	1,983
	Demand Controlled Ventilation (Gas Heating)	5,085	100%	5,085	0.93	4,729
	Energy Star Convection Oven	209	100%	209	0.93	194
	Energy Star Dishwasher	1,222	100%	1,222	0.93	1,136
	Energy Star Double Rack Oven	585	100%	585	0.93	544
	Energy Star Fryer	1,025	100%	1,025	0.93	953
	Furnace > 95% AFUE (COM)	235	100%	235	0.93	219
	Large Gas Water Heater	266	100%	266	0.93	247
	Makeup Air Unit	661	100%	661	0.93	614
	Programmable Thermostat	1,521	100%	1,521	0.97	1,475
	Smart Thermostat	157	100%	157	0.97	152
	Steam Traps - Dry Cleaner Rep. - Audit	14,348	54%	7,776	0.93	7,231
	Tankless Water Heater 0.90 UEF	2,819	95%	2,682	0.93	2,494
CFS	Combination Oven >30 Pans	1,328	47%	626	0.80	501
	Combination Oven Gas - <15 Pans	2,143	99%	2,122	0.80	1,698

Program Path	Savings Category	Ex Ante Gross Savings (Therms)	Verified Gross RR*	Verified Gross Savings (Therms)	NTG†	Verified Net Savings (Therms)
	Dishwasher High Temp - Under Counter - Gas Bldg - Elec Boost	562	99%	557	0.80	445
	Fryer Large Vat Open Deep-Vat Fryer	1,106	55%	610	0.80	488
	Fryer Standard Open Deep-Vat Fryer (French Fryer)	2,228	51%	1,146	0.80	917
PTA-DAC	Steam Traps - Dry Cleaner Rep. - Audit	60,979	54%	33,048	1.00	33,048
Px-DAC	DCV - Kitchen	693	100%	693	1.00	693
	Energy Star Dishwasher	676	100%	676	1.00	676
	Energy Star Fryer	512	100%	512	1.00	512
	Furnace > 95% AFUE (COM)	205	100%	205	1.00	205
	Tankless Water Heater 0.90 UEF	331	95%	314	1.00	314
CFS-DAC	Automatic Conveyer Broiler Commercial > 26" Conveyor Width	862	103%	884	1.00	884
Total		**355,749**	**58%**	**205,992**		**193,525**

Source: Evaluation team analysis.

5 Impact Analysis Findings and Recommendations

5.1 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 discussion of all measures with realization rates above or below 100%. Appendix A 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	Illinois TRM v13.0, Section*
Automatic Conveyer Broiler Commercial > 26" Conveyor Width	Each	863	884	102%	4.2.22
Boiler - HW <=300MBtu >=88% AFUE (COM)	MBH	0.68	0.68	100%	4.4.10
Boiler - HW 300-2500MBtu >88% TE	MBH	1.35	1.35	100%	4.4.10
Boiler Reset Controls	MBH	1.34	1.34	100%	4.4.3
Boiler Tune Up - Process	MBH	1.02	1.02	100%	4.4.3
Boiler Tune Up (COM)	MBH	0.39	0.39	100%	4.4.3
Combination Oven >30 Pans	Each	664	313	47%	4.2.1
Combination Oven Gas - <15 Pans	Each	566	555	98%	4.2.1
Convection Oven	Each	368	327	89%	4.2.5

Measure	Unit Basis	Ex Ante Gross (therms/unit)	Verified Gross (therms/unit)	Realization Rate	Illinois TRM v13.0, Section*
DCV - Kitchen	HP	213	213	100%	4.2.16
Demand Controlled Ventilation (Gas Heating)	SQ FT	0.03	0.03	100%	4.4.16
Dishwasher High Temp - Under Counter - Gas Bldg - Elec Boost	Each	187.3	185.8	99%	4.2.6
Energy Star Convection Oven	Each	209	209	100%	4.2.5
Energy Star Dishwasher	Each	633	633	100%	4.2.6
Energy Star Double Rack Oven	Each	585	585	100%	4.2.18
Energy Star Fryer	Each	513	513	100%	4.2.7
Fryer Large Vat Open Deep-Vat Fryer	Each	1,107	611	55%	4.2.7
Fryer Standard Open Deep-Vat Fryer (French Fryer)	Each	1,272	885	70%	4.2.7
Furnace > 95% AFUE (COM)	Each	221	221	100%	4.4.11
Gas Absorption Heat Pump - PG SB Custom - DAC	Each	840	840	100%	Project File Review†
Gas Cooktops	Each	68	68	100%	4.2.25
Griddle Dual	Each	291	283	97%	4.2.8
High Efficiency Pre-Rinse Spray Valve	Each	34	34	100%	4.2.11
HVAC - Other - PG SB Custom	Each	2,308	2,308	100%	Project File Review†
HW Pipe Insulation	LN FT	2.65	2.65	100%	4.4.14
Large Gas Water Heater	MBH	0.83	0.83	100%	4.3.1
Linkageless controls -for new burners	MBH	0.59	0.59	100%	4.4.21
Makeup Air Unit	CFM	0.17	0.17	100%	4.4.37
Ozone Laundry Laundromat	lb-capacity	12.4	12.4	100%	4.3.6
Micro Combined Heat and Power - PG SB Custom	Each	4,458	4,815	108%	Project File Review†
Process - Insulation >212 F - PG SB Custom	Each	1,612	1,453	90%	Project File Review†
Programmable Thermostat	Each	127	127	100%	4.4.48
Smart Thermostat	Each	132	132	100%	4.4.48
Steam Pipe Insulation	LN FT	8.37	8.37	100%	4.4.14
Steam Pipe Insulation - Fitting	LN FT	7.61	7.61	100%	4.4.14
Steam Traps - Dry Cleaner Rep. - Audit	Each	1,182	648	55%	4.4.16
Steam Traps - HVAC Repair/Rep - Audit	Each	777	780	100%	4.4.16
Steam Traps - HVAC Repair/Rep - No Audit	Each	211	211	100%	4.4.16
Steam Traps - Industrial/Process Audit - 15 <= psig < 30	Each	758	758	100%	4.4.16
Steam Traps-Industrial/Process Audit	Each	1,532	1,603	105%	4.4.16
Tankless Water Heater 0.90 UEF	Each	0.84	0.78	93%	4.3.1

** State of Illinois Technical Reference Manual version 13.0 from http://www.ilsag.info/technical-reference-manual.html.*
† Project files Review provided by PGL_NSG.
Source: Evaluation team analysis.

5.2 Findings and Recommendations

Finding 1. For the Tankless Water Heater measure under the PGL program, the evaluation team calculated gross realization rates of 87% using IL TRM v13 default values. Two PGL projects had a 100% gross realization rate, but the others had a realization rate of 83%. All NSG projects had gross realization rate of 95%. The tracking data did not provide adequate data about the storage tank capacity and the building types. Evaluation reviewed supplemental information provided by the program implementer and agreed with the 100 gallons capacity for the baseline storage tank. The evaluation researched the building types based on the projects addresses and found that two were non-profit (used other building type) and the others were restaurants. The verified savings used TRM default assumptions for these measure inputs and arrived at the gross realization rates.

Recommendation 1. **Recommendation 1.** The program tracking data should be updated to provide adequate information for selecting the storage tank capacity and the building type used in their calculation.

Finding 2. For the Steam Traps – Dry Cleaners – Audit measure, the verified gross therms savings was 648 therms per year for one steam trap; the reported ex ante energy savings for that steam trap measure was 648 therms with a 100% gross realization rate. Each of the other forty Steam Trap-Dry Cleaner installations had reported ex ante energy savings of 1,182 therms. The realization rate adjustment for this measure affected the NSG savings the most as the utility had most of this measure installations. The program team acknowledged an error in the ex ante savings from using actual steam pressure and the estimation of heat of vaporization input, which they are correcting for 2026 program.

Finding 3. For the Steam Traps – Industrial Process - Audit, the evaluation calculated a gross realization rate of 105%. The energy savings calculation is quite dependent on the average steam trap inlet and outlet pressure as well as the diameter of the steam trap orifice. These variables have significant impact on the calculated annual energy savings of the steam trap. The ex ante calculation did not provide these inputs, requiring the evaluation use of IL TRM default values.

Recommendation 2. Carefully review the input assumptions and factors used in its ex ante savings calculations for all steam trap measures, particularly the Steam Traps – Dry Cleaners. The program team acknowledged an error in the ex ante savings from using actual steam pressure and the estimation of heat of vaporization input, which they are correcting for 2026 program.

Finding 4. For custom projects WO-7168172, the evaluation team reviewed the input assumptions and found the calculation methods in the ex ante were reasonable and therefore verified a 100% gross realization rate. For custom project WO-7200379, some of the ex ante assumptions were hard coded without adequate documentation of sources in the spreadsheet calculator. The evaluator was able to verify

the gross savings for the pipe and fittings insulation project using the 3E Plus program. The ex ante savings for the fittings and traps were not adjusted by the assumed boiler efficiency of 80.7%. The verified savings produced a 90% gross realization rate.

Recommendation 3. Provide sufficient detail in ex ante energy savings calculations for custom projects, documenting sources of hard coded inputs.

Finding 5. The CFS program tracking data did not provide the baseline equipment data to enable calculation of the CFS equipment baseline energy. Supplemental data provided by the program included the manufacturer and model number of the equipment and allowed the use of the Energy Star Qualified Product List to capture key equipment data inputs for the verified energy efficient case calculation. The hours of operation of the equipment are a critical value for determining the energy savings but those were not provided, hence evaluation defaulted to the IL TRM inputs. CFS projects completed under the PGL program had a realization rate of 87%. CFS projects completed under the NSG program had a gross realization rate of 72%.

Recommendation 4. The program tracking data should be updated to provide all required equipment information for verifying the ex ante savings. Any custom data inputs used to estimate ex ante savings that are different from Energy Star Qualified Product List (QPL) values should be noted and explained, including the hours of operation of the equipment and facility type.

Finding 6. For custom project WO-7902589, Micro Combined Heat and Power, the program used a proprietary savings workbook which contained several custom assumptions but with limited documentation of the sources of assumptions. One instant, the inlet water temperature to the domestic hot water system were custom values without reference to the primary source of the assumed values. For these values, the evaluator team utilized the IL TRM v13 default water heater inlet temperature of 50.7 F. Both the evaluation and program team used the IL TRM v13 default water heater outlet temperature of 125 F. The verified gross realization rate was 108%.

Recommendation 5. Ensure Combined Heat and Power projects have all primary savings assumption and description of the theoretical basis for custom variables fully documented. If the primary sources are not available, the program can default to the IL TRM, where necessary.

Appendix A. Impact Analysis Methodology

Guidehouse calculated the verified gross savings for each measure by conducting a review of the tracking data and applying the algorithms of the IL TRM v13.[1] 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.

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.[2] 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.[3]

[1] Available on the SAG website: www.ilsag.info/technical-reference-manual/il-statewide-technical-reference-manual-version-13-0/
[2] Available on the SAG website www.ilsag.info/evaluator-ntg-recommendations-for-2025/
[3] 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 10 and Table 11 show the Total Resource Cost (TRC) cost-effectiveness analysis inputs available at the time of producing 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. Guidehouse will include annual and lifetime water savings and greenhouse gas reductions in the end of year summary report.

Table 10. Verified Cost Effectiveness Inputs - PGL

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)
PTA	Boiler Tune Up - Process	No	MBH	6,000	3.0	NO		6,136	6,136	5,706
	Boiler Tune Up (COM)	No	MBH	16,000	3.0	NO		5,978	5,978	5,559
	Steam Pipe Insulation	No	LN FT	3,137	15.0	NO		24,671	24,671	22,944
	Steam Pipe Insulation - Fitting	No	LN FT	313	15.0	NO		2,210	2,210	2,056
	Steam Traps - Dry Cleaner Rep. - Audit	No	Each	17.00	6.0	NO	91,519	20,326	11,016	10,245
	Steam Traps - HVAC Repair/Rep - Audit	No	Each	520	6.00	NO	3,079,917	403,691	405,606	377,216
	Steam Traps-Industrial/Process Audit > 30 psig	No	Each	4.00	6.0	NO	54,992	6,129	6,413	5,964
	Steam Traps - Industrial/Process Audit - 15 <= psig < 30	No	Each	5.00	6.0	NO	68,740	3,790	3,790	3,525
Px	Boiler - HW <=300MBtu >=88% AFUE (COM)	No	MBH	1,198	25.0	NO		818	818	761
	Boiler - HW 300-2500MBtu >88% TE	No	MBH	5,000	25.0	NO		8,390	8,389	7,802
	Boiler Tune Up - Process	No	MBH	14,999	3.0	NO		15,340	15,340	14,266
	Boiler Tune Up (COM)	No	MBH	722	3.0	NO		306	306	284
	Demand Controlled Ventilation (Gas Heating)	No	SQ FT	153,600	6.0	NO		5,376	5,376	4,999
	Large Gas Water Heater	No	MBH	796	15.0	NO		735	735	684

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)
	Linkageless controls -for new burners	No	MBH	46,200	16.0	NO		27,305	27,305	25,394
	Smart Thermostat	No	Each	4.00	11.0	NO		528	528	512
	Steam Traps - Dry Cleaner Rep. - Audit	No	Each	5.00	6.0	NO	26,917	5,978	3,240	3,013
	Tankless Water Heater 0.90 UEF	No	Each	1,194	20.0	NO		1,132	944	878
CFS	Combination Oven Gas - <15 Pans	No	Each	16.00	12.0	NO		9,171	8,990	7,192
	Convection Oven	No	Each	2.00	12.0	NO		563	561	499
	Fryer Standard Open Deep-Vat Fryer (French Fryer)	No	Each	7.00	12.0	NO		9,537	6,334	5,067
	Gas Cooktops	No	Each	6.00	12.0	NO		407	407	325
	Griddle Dual	No	Each	1.00	12.0	NO		291	282	226
	High Efficiency Pre-Rinse Spray Valve	No	Each	4.00	5.0	NO	56,160	136	136	109
`Custom	HVAC - Other - PG SB Custom	No	Each	1.00		NO		2,308	2,308	2,146
	Process - Insulation >212 F - PG SB Custom	No	Each	1.00	15.0	NO		1,613	1,453	1,351
	Micro Combined Heat and Power - PG SB Custom	No	Each	1.00	15.0	NO		4,458	4,815	4,478
PTA-DAC	Boiler - HW 300-2500MBtu >88% TE	Yes	MBH	5,663	25.0	NO		6,062	6,062	6,062
	Boiler Tune Up (COM)	Yes	MBH	1,439	3.0	NO		702	702	702
	HW Pipe Insulation	Yes	LN FT	200	15.0	NO		531	531	531
	Steam Pipe Insulation	Yes	LN FT	360	15.0	NO		4,611	4,611	4,611
	Steam Pipe Insulation - Fitting	Yes	LN FT	20.00	15.0	NO		323	323	323
	Steam Traps - Dry Cleaner Rep. - Audit	Yes	Each	23.00	6.0	NO	123,820	27,500	14,904	14,904
	Steam Traps - HVAC Repair/Rep - Audit	Yes	Each	110	6.0	NO	729,172	86,000	85,797	85,797
	Steam Traps - HVAC Repair/Rep - No Audit	Yes	Each	74.00	6.0	NO	133,629	15,620	15,584	15,584
Px-DAC	Boiler Reset Controls	Yes	MBH	1,250	3.0	NO		1,678	1,678	1,678
	Boiler Tune Up (COM)	Yes	MBH	3,012	3.0	NO		1,278	1,278	1,278

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)
	Demand Controlled Ventilation (Gas Heating)	Yes	SQ FT	133,203	6.0	NO		4,662	4,662	4,662
	Ozone Laundry Laundromat	Yes	lb-capacity	1,995	10.0	NO	476,805	24,746	24,746	24,746
	Smart Thermostat	Yes	Each	2.00	11.0	NO		240	240	240
	Steam Traps - HVAC Repair/Rep - No Audit	Yes	Each	87.00	6.0	NO	581,868	18,364	18,321	18,321
	Tankless Water Heater 0.90 UEF	Yes	Each	398	20.0	NO		282	282	282
CFS-DAC	Combination Oven Gas - <15 Pans	Yes	Each	6.00	12.0	NO		3,398	3,320	3,320
	Convection Oven	Yes	Each	1.00	12.0	NO		540	420	420
	Fryer Standard Open Deep-Vat Fryer (French Fryer)	Yes	Each	3.00	12.0	NO		2,228	2,252	2,252
	Griddle Dual	Yes	Each	1.00	12.0	NO		291	282	282
Custom-DAC	Gas Absorption Heat Pump - PG SB Custom - DAC	Yes	Each	1.00	15.0	NO		840	840	840
Total or Weighted Average					**7.4**		**5,423,539**	**767,220**	**740,924**	**699,987**

Source: Evaluation team analysis.

Table 11. Verified Cost Effectiveness Inputs – NSG

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)
PTA	Steam Traps - Dry Cleaner Rep. - Audit	No	Each	214	6.0	NO	1,152,069	251,499	138,682	128,979
Px	Boiler Tune Up - Process	No	MBH	2,307	3.0	NO		2,359	2,359	2,194
	DCV - Kitchen	No	HP	10.00	20.0	NO		2,133	2,133	1,983
	Demand Controlled Ventilation (Gas Heating)	No	SQ FT	145,300	6.0	NO		5,085	5,085	4,729
	Energy Star Convection Oven	No	Each	1.00	12.0	NO		209	209	194
	Energy Star Dishwasher	No	Each	2.00	15.0	NO	12,602	1,222	1,222	1,136
	Energy Star Double Rack Oven	No	Double Oven	1.00	12.0	NO		585	585	544
	Energy Star Fryer	No	Each	2.00	12.0	NO		1,025	1,025	953
	Furnace > 95% AFUE (COM)	No	Each	1.00	16.0	NO		235	235	219
	Large Gas Water Heater	No	MBH	399	15.0	NO		266	266	247
	Makeup Air Unit	No	CFM	3,800	15.0	NO		661	661	614
	Programmable Thermostat	No	Each	12.00	11.0	NO		1,521	1,521	1,475
	Smart Thermostat	No	Each	1.00	11.0	NO		157	157	152
	Steam Traps - Dry Cleaner Rep. - Audit	No	Each	12.00	6.0	NO	64,602	14,348	7,776	7,231
	Tankless Water Heater 0.90 UEF	No	Each	3,390	20.0	NO		2,819	2,682	2,494
CFS	Combination Oven >30 Pans	No	Each	2.00	12.0	NO		1,328	626	501
	Combination Oven Gas - <15 Pans	No	Each	4.00	12.0	NO		2,143	2,122	1,698
	Dishwasher High Temp - Under Counter - Gas Bldg - Elec Boost	No	Each	3.00	15.0	NO	18,903	562	557	445
	Fryer Large Vat Open Deep-Vat Fryer	No	Each	1.00	12.0	NO		1,106	610	488
	Fryer Standard Open Deep-Vat Fryer (French Fryer)	No	Each	1.00	12.0	NO		2,228	1,146	917

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)
PTA-DAC	Steam Traps - Dry Cleaner Rep. - Audit	Yes	Each	51.00	6.0	NO	274,558	60,979	33,048	33,048
Px-DAC	DCV - Kitchen	Yes	HP	3.00	20.0	NO		693	693	693
	Energy Star Dishwasher	Yes	Each	1.00	15.0	NO	6,301	676	676	676
	Energy Star Fryer	Yes	Each	1.00	12.0	NO		512	512	512
	Furnace > 95% AFUE (COM)	Yes	Each	1.00	16.0	NO		205	205	205
	Tankless Water Heater 0.90 UEF	Yes	Each	398	20.0	NO		331	314	314
CFS-DAC	Automatic Conveyer Broiler Commercial > 26" Conveyor Width	Yes	Each	1.00	12.0	NO		862	884	884
Total or Weighted Average					**6.8**		**1,529,035**	**355,749**	**205,992**	**193,525**

Source: Evaluation team analysis.