



Home Energy Jumpstart Impact Evaluation Report

**Energy Efficiency Plan Year 2020
(1/1/2020-12/31/2020)**

Presented to

Peoples Gas and North Shore Gas

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1. Introduction

This report presents the results of the impact evaluation of the Peoples Gas (PGL) and North Shore Gas (NSG) 2020 Home Energy Jumpstart (HEJ) 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 2020 covers January 1, 2020 through December 31, 2020.

2. Program Description

The 2020 HEJ Program is an assessment and direct install program jointly implemented by ComEd and Peoples Gas and North Shore Gas (PGL and NSG) with Franklin Energy Services (Franklin Energy) operating as implementer of the program. This report focuses solely on the natural gas savings from the program. Savings from electric measures are included in a separate evaluation report delivered to ComEd.

The HEJ Program seeks to secure energy savings through direct installation of low-cost efficiency measures, such as: water efficient showerheads and faucet aerators, pipe insulation, electricity-saving devices, and programmable thermostats at eligible single-family (SF) residences, including condominiums (Condo). The program also secures energy savings through installation of advanced (smart) thermostats with co-pays. In addition, the program performs an assessment of the major retrofit opportunities (e.g., furnace, boiler, air conditioning, insulation, and air sealing) and heightens homeowner awareness about available additional efficiency programs offered by ComEd, Peoples Gas and North Shore Gas. A Virtual Home Assessment (VA) option was added in 2020 to adapt to COVID restrictions. The program measures also included Leave Behind Kits, which are comprised of weather stripping, door sweep, and shower timer measures. If a Leave Behind Kit is delivered to a home with an electric water heater, there are no natural gas savings for shower timers.

The program conducted field assessments and direct installation in-home by program staff in Q1 2020 but suspended in-home assessments from March to July due to COVID. In Q2, the virtual assessment was added and continued through the end of the year. In Q3 2020, the program reopened the in-home field assessment and direct installation option. HEJ customers who were postponed during the suspension were contacted to reschedule new appointments. Self-install Leave-Behind Kits were provided to field and virtual assessment participants.

The PGL program had 2,302 participants in 2020 and completed 2,369 projects, as shown Table 2-1.

Table 2-1. 2020 Volumetric Summary for PGL

Participation	Field Assessment with Direct- and Self-Install	Virtual Home Assessment with Self-Install	Total
Participants*	2,185	188	2,302
Installed Projects †	2,242	188	2,369

* Participants are defined as the number of distinct Account Names with realized gas savings.

† Installed Projects are defined as the number of distinct project IDs.

Source: Peoples Gas tracking data and Guidehouse evaluation team analysis.

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

Table 2-2. 2020 Measure Quantities for PGL

Program Path	Measure	Quantity Unit	Installed or Distributed Quantity
Field Assessment with Direct- and Self-Install	Advanced Thermostats	Each	236
	Advanced Thermostats (Condo)	Each	44
	Faucet Aerator - Bathroom	Each	477
	Faucet Aerator - Bathroom (Condo)	Each	30
	Faucet Aerator - Kitchen	Each	357
	Faucet Aerator - Kitchen (Condo)	Each	34
	Leave Behind Kit - Electric DHW	Each	12
	Leave Behind Kit - Gas DHW	Each	1608
	Pipe Insulation - DHW Outlet	Linear Feet	879
	Pipe Insulation - HW Space Heat Outlet	Linear Feet	352
	Programmable Thermostats (Boiler/Furnace)	Each	306
	Reprogram Thermostats (Boiler/Furnace)	Each	581
	Showerhead	Each	957
	Showerhead (Condo)	Each	106
	Virtual Home Assessment with Self-Install	Faucet Aerator - Bathroom - VA	Each
Faucet Aerator - Bathroom (Condo) - VA		Each	45
Faucet Aerator - Kitchen - VA		Each	36
Faucet Aerator - Kitchen (Condo) - VA		Each	5
Leave Behind Kit - Electric DHW - VA		Each	2
Leave Behind Kit - Gas DHW - VA		Each	129
Pipe Insulation - DHW Outlet - VA		Each	601
Pipe Insulation - HW Space Heat Outlet - VA		Each	12
Showerhead - VA		Each	179
Showerhead (Condo) - VA	Each	50	

Source: Peoples Gas tracking data and Guidehouse evaluation team analysis.

The NSG program had 695 participants in 2020 and completed 701 projects, as shown in Table 2-3.

Table 2-3. 2020 Volumetric Summary for NSG

Participation	Field Assessment with Direct- and Self-Install	Virtual Home Assessment with Self-Install	Total
Participants*	665	46	695
Installed Projects †	672	46	701

* Participants are defined as the number of distinct Account Names with realized gas savings.

† Installed Projects are defined as the number of distinct project IDs.

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

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

Table 2-4. 2020 Measure Quantities for NSG

Program Path	Measure	Quantity Unit	Installed or Distributed Quantity
Field Assessment with Direct- and Self-Install	Advanced Thermostats	Each	85
	Advanced Thermostats (Condo)	Each	4
	Faucet Aerator - Bathroom	Each	400
	Faucet Aerator - Bathroom (Condo)	Each	4
	Faucet Aerator - Kitchen	Each	45
	Leave Behind Kit - Electric DHW	Each	1
	Leave Behind Kit - Gas DHW	Each	534
	Pipe Insulation - DHW Outlet	Linear Feet	519
	Pipe Insulation - HW Space Heat Outlet	Linear Feet	63
	Programmable Thermostats (Boiler/Furnace)	Each	45
	Reprogram Thermostats (Boiler/Furnace)	Each	115
	Showerhead	Each	429
	Showerhead (Condo)	Each	4
	Virtual Home Assessment with Self-Install	Faucet Aerator - Bathroom - VA	Each
Faucet Aerator - Bathroom (Condo) - VA		Each	3
Faucet Aerator - Kitchen - VA		Each	7
Faucet Aerator - Kitchen (Condo) - VA		Each	1
Leave Behind Kit - Gas DHW - VA		Each	29
Pipe Insulation - DHW Outlet - VA		Each	219
Pipe Insulation - HW Space Heat Outlet - VA		Each	11
Showerhead - VA		Each	49
Showerhead (Condo) - VA	Each	1	

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

3. Savings Summary

Table 3-1 summarizes the PGL HEJ Program energy savings achieved by path in 2020.

Table 3-1. 2020 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)
Field Assessment / Direct- and Self-Install	114,688	99%	113,910	0.89	100,961
Virtual Home Assessment / Self-Install	4,462	99%	4,433	0.94	4,184
Total or Weighted Average	119,150	99%	118,343	0.89	105,145

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

† A weighted average based on measure-level deemed values. Measure-level NTGs provided in Section 4. Deemed values available on the SAG web site: https://www.ilsag.info/ntg_2020.

Source: Peoples Gas tracking data and Guidehouse evaluation team analysis.

Table 3-2 summarizes the energy savings the NSG HEJ Program achieved by path in 2020.

Table 3-2. 2020 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)
Field Assessment / Direct- and Self- Install	29,951	100%	29,944	0.91	27,111
Virtual Home Assessment / Self-Install	1,000	100%	998	0.94	938
Total or Weighted Average	30,951	100%	30,942	0.91	28,049

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

† A weighted average based on measure-level deemed values. Measure-level NTGs provided in Section 4. Deemed values available on the SAG web site: https://www.ilsag.info/ntg_2020.

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

4. Program Savings by Measure

The PGL program includes 24 measures as shown in Table 4-1. The Advanced Thermostats, Programmable Thermostats, Reprogram Thermostats, and Leave Behind Gas Kits contributed the most savings.

Table 4-1. 2020 Annual Energy Savings by Measure for PGL

Program Path	Research Category	Ex Ante Gross Savings (Therms)	Verified Gross RR*	Verified Gross Savings (Therms)	NTG†	Verified Net Savings (Therms)
Field Assessment / Direct- and Self-Install	Advanced Thermostats	16,010	99%	15,805	NA‡	15,805
	Advanced Thermostats (Condo)	2,174	100%	2,174	NA‡	2,174
	Faucet Aerator - Bathroom	417	99%	412	1.02	421
	Faucet Aerator - Bathroom (Condo)	79	59%	47	1.02	48
	Faucet Aerator - Kitchen	990	99%	982	1.02	1,001
	Faucet Aerator - Kitchen (Condo)	86	99%	86	1.02	87
	Leave Behind Kit - Electric DHW	158	100%	158	0.88	139
	Leave Behind Kit - Gas DHW	27,099	100%	27,109	0.88	23,856
	Pipe Insulation - DHW Outlet	339	100%	339	0.88	299
	Pipe Insulation - HW Space Heat Outlet	478	100%	478	0.88	421
	Programmable Thermostats (Boiler/Furnace)	19,524	99%	19,241	0.88	16,932
	Reprogram Thermostats (Boiler/Furnace)	37,722	99%	37,466	0.80	29,973
	Showerhead	8,413	100%	8,413	1.02	8,581
	Showerhead (Condo)	1,199	100%	1,200	1.02	1,224
Virtual Home Assessment / Self-Install	Faucet Aerator - Bathroom - VA	126	99%	125	1.02	127
	Faucet Aerator - Bathroom (Condo) - VA	97	59%	58	1.02	59
	Faucet Aerator - Kitchen - VA	80	99%	80	1.02	81
	Faucet Aerator - Kitchen (Condo) - VA	11	99%	11	1.02	11
	Leave Behind Kit - Electric DHW - VA	26	100%	26	0.88	23
	Leave Behind Kit - Gas DHW - VA	2,174	100%	2,175	0.88	1,914
	Pipe Insulation - DHW Outlet - VA	181	100%	181	0.88	159
	Pipe Insulation - HW Space Heat Outlet - VA	13	100%	13	0.88	11
	Showerhead - VA	1,290	100%	1,290	1.02	1,316
	Showerhead (Condo) - VA	464	102%	474	1.02	483
Total or Weighted Average		119,150	99%	118,343	0.89	105,145

* Realization Rate (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 web site: https://www.ilsag.info/ntg_2020.

‡ The TRM v8.0 algorithm for advanced thermostat savings is deemed to calculate net savings, so no NTG adjustment is applicable.

Source: Peoples Gas tracking data and Guidehouse evaluation team analysis.

The NSG program includes 22 measures as shown in Table 4-2. The Programmable Thermostats, Reprogram Thermostats, Showerhead, and Leave Behind Gas Kits contributed the most savings.

Table 4-2. 2020 Annual Energy Savings by Measure for NSG

Program Path	Research Category	Ex Ante Gross Savings (Therms)	Verified Gross RR*	Verified Gross Savings (Therms)	NTG†	Verified Net Savings (Therms)
Field Assessment / Direct- and Self-Install	Advanced Thermostats	5,942	100%	5,942	NA‡	5,942
	Advanced Thermostats (Condo)	230	100%	230	NA‡	230
	Faucet Aerator – Bathroom	350	99%	346	1.02	353
	Faucet Aerator - Bathroom (Condo)	11	59%	6	1.02	6
	Faucet Aerator – Kitchen	125	99%	124	1.02	126
	Leave Behind Kit - Electric DHW	13	100%	13	0.88	12
	Leave Behind Kit - Gas DHW	8,999	100%	9,003	0.88	7,922
	Pipe Insulation - DHW Outlet	200	100%	200	0.88	176
	Pipe Insulation - HW Space Heat Outlet	86	100%	86	0.88	75
	Programmable Thermostats (Boiler/Furnace)	2,924	100%	2,923	0.88	2,572
	Reprogram Thermostats (Boiler/Furnace)	7,255	100%	7,255	0.80	5,804
	Showerhead	3,771	100%	3,771	1.02	3,847
	Showerhead (Condo)	45	100%	45	1.02	46
	Virtual Home Assessment / Self-Install	Faucet Aerator - Bathroom - VA	47	99%	47	1.02
Faucet Aerator - Bathroom (Condo) - VA		6	59%	4	1.02	4
Faucet Aerator - Kitchen - VA		16	99%	16	1.02	16
Faucet Aerator - Kitchen (Condo) - VA		2	99%	2	1.02	2
Leave Behind Kit - Gas DHW - VA		489	100%	489	0.88	430
Pipe Insulation - DHW Outlet - VA		66	100%	66	0.88	58
Pipe Insulation - HW Space Heat Outlet - VA		12	100%	12	0.88	10
Showerhead - VA		353	100%	353	1.02	360
Showerhead (Condo) - VA		9	102%	9	1.02	10
Total or Weighted Average		30,951	100%	30,942	0.91	28,049

* Realization Rate (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 web site: https://www.ilsag.info/ntg_2020.

‡ The TRM v8.0 algorithm for advanced thermostat savings is deemed to calculate net savings, so no NTG adjustment is applicable.

Source: North Shore 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 the evaluation team's 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 percent. Appendix A provides a description of the impact analysis methodology. Appendix B provides the Total Resource Cost (TRC) cost-effectiveness analysis inputs available at the time of producing this impact evaluation report.

Table 5-1. Verified Gross Savings Parameters

Measure	Unit Basis	Ex Ante Gross (therms/unit)	Verified Gross (therms/unit)	Realization Rate	Data Source(s)
Advanced Thermostats - Manual Baseline (Furnace & AC)	Each	88.44	88.44	100%	TRM v8† - Section 5.3.16, MMDB, PTD*
Advanced Thermostats - Prog Baseline (Furnace & AC)	Each	56.28	56.28	100%	TRM v8 - Section 5.3.16, MMDB, PTD
Advanced Thermostats - Prog Baseline (Boiler only)	Each	83.18	83.18	100%	TRM v8 - Section 5.3.16, MMDB, PTD
Advanced Thermostats (Condo) - Manual Baseline	Each	57.49	57.49	100%	TRM v8 - Section 5.3.16, MMDB, PTD
Advanced Thermostats (Condo) - Prog Baseline	Each	36.58	36.58	100%	TRM v8 - Section 5.3.16, MMDB, PTD
Faucet Aerator - Bathroom	Each	0.87	0.86	99%	TRM v8 - Section 5.4.4, MMDB, PTD
Faucet Aerator - Bathroom - VA	Each	0.72	0.71	99%	TRM v8 - Section 5.4.4, MMDB, PTD
Faucet Aerator - Bathroom (Condo)	Each	2.63	1.56	59%	TRM v8 - Section 5.4.4, MMDB, PTD
Faucet Aerator - Bathroom (Condo) - VA	Each	2.16	1.28	59%	TRM v8 - Section 5.4.4, MMDB, PTD
Faucet Aerator - Kitchen	Each	2.77	2.75	99%	TRM v8 - Section 5.4.4, MMDB, PTD
Faucet Aerator - Kitchen - VA	Each	2.23	2.21	99%	TRM v8 - Section 5.4.4, MMDB, PTD
Faucet Aerator - Kitchen (Condo)	Each	2.54	2.52	99%	TRM v8 - Section 5.4.4, MMDB, PTD
Faucet Aerator - Kitchen (Condo) - VA	Each	2.14	2.12	99%	TRM v8 - Section 5.4.4, MMDB, PTD
Leave Behind Kit - Electric DHW	Each	13.15	13.15	100%	TRM v8 - Section 5.4.9 & 5.6.1, 4.8.16, MMDB
Leave Behind Kit - Gas DHW	Each	16.85	16.86	100%	TRM v8 - Section 5.4.9 & 5.6.1, 4.8.16, MMDB
Pipe Insulation - DHW Outlet	Linear Ft	0.39	0.39	100%	TRM v8 - Section 5.4.1, MMDB, PTD
Pipe Insulation - DHW Outlet - VA	Linear Ft	0.30	0.30	100%	TRM v8 - Section 5.4.1, MMDB, PTD

Measure	Unit Basis	Ex Ante Gross (therms/unit)	Verified Gross (therms/unit)	Realization Rate	Data Source(s)
Pipe Insulation - HW Space Heat Outlet	Linear Ft	1.36	1.36	100%	TRM v8† - Section 5.3.2, MMDB, PTD*
Pipe Insulation - HW Space Heat Outlet - VA	Linear Ft	1.06	1.06	100%	TRM v8 - Section 5.3.2, MMDB, PTD
Programmable Thermostats (Furnace)	Each	62.31	62.31	100%	TRM v8 - Section 5.3.11, MMDB, PTD
Programmable Thermostats (Boiler)	Each	92.21	92.09	100%	TRM v8 - Section 5.3.11, MMDB, PTD
Programmable Thermostats (Furnace) - Condo	Each	40.50	40.50	100%	TRM v8 - Section 5.3.11, MMDB, PTD
Programmable Thermostats (Boiler) - Condo	Each	59.93	59.93	100%	TRM v8 - Section 5.3.11, MMDB, PTD
Reprogram Thermostats (Furnace)	Each	62.31	62.31	100%	TRM v8 - Section 5.3.11, MMDB, PTD
Reprogram Thermostats (Boiler)	Each	92.21	92.09	100%	TRM v8 - Section 5.3.11, MMDB, PTD
Reprogram Thermostats (Furnace) - Condo	Each	40.50	40.50	100%	TRM v8 - Section 5.3.11, MMDB, PTD
Reprogram Thermostats (Boiler) - Condo	Each	59.93	59.93	100%	TRM v8 - Section 5.3.11, MMDB, PTD
Showerhead	Each	8.79	8.79	100%	TRM v8 - Section 5.4.5, MMDB, PTD
Showerhead - VA	Each	7.21	7.21	100%	TRM v8 - Section 5.4.5, MMDB, PTD
Showerhead (Condo)	Each	11.31	11.32	100%	TRM v8 - Section 5.4.5, MMDB, PTD
Showerhead (Condo) - VA	Each	9.27	9.47	102%	TRM v8 - Section 5.4.5, MMDB, PTD

* Program Tracking Data (PTD) provided by Peoples Gas and North Shore Gas, extract dated February 1, 2021.

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

COVID-19 lockdowns in 2020 prompted ComEd, Nicor Gas, Peoples Gas, and North Shore Gas to pursue virtual assessment and guided self-installation options for their assessment and direct install programs. The TRM does not prescribe in-service rates (ISRs) for measures installed as part of a virtual assessment channel. In order to estimate program savings for 2020, Guidehouse developed custom ISRs for virtual assessment/self-install measures¹. These measures include showerheads, kitchen and bathroom aerators, and omnidirectional and specialty LEDs. Guidehouse used a weighted average approach to create the custom virtual assessment ISRs by weighting the efficiency kit ISR (as specified in the TRM) by fifty percent and the direct-install ISR by fifty percent.

¹ Guidehouse, *In-Service Rates for CY2020 Single Family Virtual Assessment Measures*, August 20, 2020.

Table 5-2. Virtual Home Assessment In-Service Rates

Measure Category	Prospective Custom ISR for 2020 Single Family Virtual Assessment Measures
Showerheads	0.795
Aerators – Bathroom	0.780
Aerators – Kitchen	0.765
DHW Pipe Insulation	0.780
Omnidirectional LEDs	0.803
Specialty LEDs	0.803

Source: Guidehouse analysis, IL TRM v8.0

5.2 Findings and Recommendations

5.2.1 Low Flow Faucet Aerators

The overall verified gross realization rate for low-flow bathroom faucet aerators is 92% (89% for PGL and 97% for NSG), and for kitchen aerators is 99% for both utilities. The bathroom aerator ex ante savings assumed 1.5364 baseline gallons per minute (GPM_base) instead of the deemed 1.53 value to qualify for applying the 1.02 net to gross ratio. Similarly, the kitchen aerator applied 1.6318 GPM instead of the deemed 1.63 value. The evaluation team also corrected an error in the calculation of the gross unit therm savings for bathroom aerators installed in condos (erroneously uses DF/DF in the calculation instead of DF/FPH), which resulted in the measure having a 59% gross realization rate.²

Recommendation 1. Use the Illinois Technical Reference Manual (TRM) deemed baseline GPMs to qualify for the use of zero free ridership (1.02 net-to-gross) for the ex ante savings calculation.

Recommendation 2. Ensure that the savings calculation for bathroom aerators in condos uses the correct ratio (DF/FPH) input, and update the savings in the tracking data.

5.2.2 Showerhead and Kitchen Aerators Installed in Condos

The evaluation team found the gross savings for virtual assessment showerhead and kitchen aerators installed in condos did not match the verified savings when we applied the recommended virtual assessment in-service rate values of 0.795 for condo showerheads and 0.765 for condo kitchen aerators. The gross ex ante unit savings was 9.274, but the verified savings was 9.471 therms. Similarly, for kitchen aerators, the ex ante gross savings was 2.129, but the verified value was 2.119 therms.

²² DF – deration factor, FPH – faucet per household

Recommendation 3. Include the virtual assessment ISR in the master measure database (MMDB), and calculate savings for virtual install measures, similar to the approach for direct install and condo measures.

5.2.3 Thermostats

The verified gross realization rates for the advanced thermostats projects, programmable thermostats and reprogram thermostats are 99%. The per unit ex ante savings matched the per unit verified savings calculation for each of the thermostat measure types. Guidehouse found instances where a single “Account_Name” and “Site_Address” claimed savings for more than one thermostat. Per TRM v8.0, savings for only one thermostat can be claimed per household. This occurred in 10 Account Names, which affected 20 projects (5 advanced thermostats, 15 programmable and reprogram thermostats) and resulted in a 50% gross realization rate for these accounts. Example Project IDs affected include: 6071479, 6074539, 6074540, 6101677, and 6101692.

Recommendation 4. Claim savings for only one programmable or one advanced thermostat per household or site.

5.2.4 Historical Realization Rates and Net-to-Gross (NTG) Values

Table 5-3 shows the historical gross realization rates and NTG values for the HEJ Program. Beginning in GPY4, the NTG values shown are a savings weighted average from the various measures, and deemed NTGs that vary by measure and program path.

Table 5-3. Historical Realization Rates and NTG Values

Program Year	PGL Verified Gross RR	NSG Verified Gross RR	PGL NTG	NSG NTG
GPY1 (2011-2012)	100%	100%	0.90	0.90
GPY2 (2012-2015)	100%	98%	0.90	0.90
GPY3 (2013-2014)	100%	100%	0.90	0.90
GPY4 (2014-2015)	100%	102%	0.95	0.92
GPY5 (2015-2016)	103%	100%	0.95	0.95
GPY6 (2016-2017)	100%	100%	0.90	0.92
2018	107%	110%	0.84	0.86
2019	98%	98%	0.89	0.91
2020	99%	100%	0.89	0.91

Source: Guidehouse evaluation research.

Appendix A. Impact Analysis Methodology

Guidehouse calculated gross savings by using the methodologies prescribed in the Illinois Technical Reference Manual (TRM) v8.0³ and the inputs provided in the program tracking data, when available. The evaluation team compared the TRM and the savings calculation method in the 2020 tracking data to Franklin Energy's MMDB file⁴, which feeds into calculating the tracking data savings. Guidehouse verified that the TRM algorithms were correctly applied in the MMDB and made adjustment where the MMDB assumed custom inputs. Guidehouse developed custom ISRs for virtual assessment/self-install measures⁵.

Guidehouse calculated verified net energy savings by multiplying the verified gross savings estimates by a net-to-gross (NTG) ratio. In 2020, the NTG estimates used to calculate the net verified savings were based on past evaluation research and defined by a consensus process through the Illinois Stakeholder Advisory Group (SAG).

The NTG for the Leave Behind Kit was not specifically identified in the deemed 2020 NTG values. Instead of the TRM default NTG of 0.80, we assigned a NTG of 0.88 to those measures, which is the NTG used for other self-installable equipment measures in the program, including boiler pipe insulation and DHW pipe insulation.

³ State of Illinois Technical Reference Manual version 8.0 from <http://www.ilsag.info/technical-reference-manual.html>

⁴ File name: 2020 MMDB – Res and MF, produced by Franklin Energy.

⁵ Guidehouse, *In-Service Rates for CY2020 Single Family Virtual Assessment Measures*, August 20, 2020.

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. 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

Measure	Units	Quantity	Effective Useful Life	Ex Ante Gross Savings (Therms)	Verified Gross Savings (Therms)	Verified Net Savings (Therms)
Advanced Thermostats	Each	280	11.0	18,185	17,979	17,979
Faucet Aerator - Bathroom	Each	728	10.0	719	641	654
Faucet Aerator - Kitchen	Each	432	10.0	1,167	1,158	1,181
Leave Behind Kit - Gas/Electric DHW	Each	1,751	12.5	29,457	29,468	25,932
Pipe Insulation - HW/DHW Outlet	Linear Ft	1,844	15.0	1,011	1,011	890
Programmable Thermostats (Boiler/Furnace)	Each	306	8.0	19,524	19,241	16,932
Reprogram Thermostats (Boiler/Furnace)	Each	581	2.0	37,722	37,466	29,973
Showerhead	Each	1,292	10.0	11,366	11,376	11,604
Total or Weighted Average		7,214	8.0	119,150	118,343	105,145

Source: Peoples Gas tracking data and Guidehouse evaluation team analysis.

Table B-2. Verified Cost Effectiveness Inputs – NSG

Measure	Units	Quantity	Effective Useful Life	Ex Ante Gross Savings (Therms)	Verified Gross Savings (Therms)	Verified Net Savings (Therms)
Advanced Thermostats	Each	89	11.0	6,172	6,172	6,172
Faucet Aerator - Bathroom	Each	473	10.0	414	403	411
Faucet Aerator - Kitchen	Each	53	10.0	143	141	144
Leave Behind Kit - Gas/Electric DHW	Each	564	12.5	9,501	9,505	8,364
Pipe Insulation - HW/DHW Outlet	Linear Ft	812	15.0	364	364	320
Programmable Thermostats (Boiler/Furnace)	Each	45	8.0	2,924	2,923	2,572
Reprogram Thermostats (Boiler/Furnace)	Each	115	2.0	7,255	7,255	5,804
Showerhead	Each	483	10.0	4,179	4,179	4,263
Total or Weighted Average		2,634	9.0	30,951	30,942	28,049

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