

**To:** Peoples Gas and North Shore Gas

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**From:** Christopher Frye, Alexis Hamilton; Guidehouse

**Date:** September 27, 2023

**Re:** Peoples Gas and North Shore Gas Home Energy Jumpstart Program 2022-2023  
Net-to-Gross Research Results - Final

## 1. Executive Summary

The Peoples Gas and North Shore Gas (PGL-NSG) Home Energy Jumpstart (HEJ) Program net-to-gross (NTG) research asked free ridership (FR) and spillover (SO) questions in two surveys. The free ridership survey was offered to recent participants of the PGL-NSG Energy Efficiency Program from PY2022 and PY2023, and the spillover survey was offered to participants from PY2021 and PY2022, allowing time for spillover to develop.

Free ridership research results include the following measures installed directly and virtually – door sweep, hot water pipe insulation, programmable thermostat, and weatherstripping. Free ridership for the advanced thermostat measure is reported in a separate memo – *PGL-NSG Advanced Thermostat 2022-2023 Free Ridership Research Results*. Free ridership is deemed zero for faucet aerators and low-flow showerheads by the TRM. Rebated weatherization measures will be researched next season. Appendix A details the FR value to be used for measures that were not researched this season.

For both surveys, Guidehouse crafted survey questions following the algorithm prescribed in the TRM<sup>1</sup> and, for the free ridership survey, questions following an alternative algorithm that was described in Guidehouse’s memo to the Illinois Stakeholder Advisory Group (SAG).<sup>2</sup> The surveys were fielded by Guidehouse.

The results will inform Guidehouse’s September 2023 recommendations to SAG about NTG values to be used for this program in PY2024. Table 1 summarizes the FR and SO 2023 research findings. The FR result is specific to no cost, direct install and virtual assessment measures (excluding faucet aerators and showerheads which have TRM-deemed FR = 0), while the spillover result applies to all program measures (except advanced thermostats).

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<sup>1</sup> Illinois Statewide Technical Reference Manual for Energy Efficiency Version 11.0.

<sup>2</sup> Guidehouse’s memo, SAG Deviation Memo for Res FR 2023-05-10, describes the alternative protocols and the motivations for the deviations from the TRM.

**Table 1. Net-to-Gross Research Results for PG/NSG 2023**

Strata	Free Ridership	Participant Spillover	NTG Ratio
No Cost, Direct Install and Virtual Assessment	0.10 <sup>+</sup>	0.09 <sup>++</sup>	0.99

Source: Evaluation team research

Note: <sup>+</sup>FR includes only door sweep, hot water pipe insulation, programmable thermostat, thermostat education, weatherstripping. <sup>++</sup>Participant spillover applies to all measures in the program, excluding advanced thermostat.

## 2. Free Ridership and Spillover Survey Disposition

The Guidehouse evaluation team conducted web surveys with participants of the Peoples Gas and North Shore Gas Home Energy Jumpstart (HEJ) program. The free ridership survey was shared with customers who participated from April 2022 through March 2023. The spillover survey was shared with participants from April 2021 through March 2022. Free ridership and spillover data for the PGL-NSG HEJ program, jointly offered with ComEd, was collected using a census approach with online surveys sent to participant email addresses. A \$10 incentive gift card was offered to survey-confirmed respondents to complete the survey. Two reminder emails were sent to all FR and SO survey recipients to increase participation in the survey.

The target number of completes for the PGL-NSG HEJ online free ridership survey was 62, approximately 4% of the estimated number of participants. The target number of completes for the PGL-NSG HEJ online spillover survey was 53, approximately 1.5% of the estimated number of participants. Guidehouse attempted contact with 653 unique participants for FR and 219 unique participants for SO.

Guidehouse created the samples for FR and SO from the list of HEJ participants who had viable email addresses and participated within the respective timelines for free ridership and spillover. The FR sample contained 653 participants and the SO sample contained 219 participants. Of those, 60 participants took the free ridership survey, and 43 participants took the spillover survey. The evaluation team eliminated surveys where recipients did not answer the verbatim questions, where the verbatim responses were inconsistent with responses to the counterfactual scenario or timing questions, and surveys that were incomplete. The FR result is based on 53 completed surveys. The SO result is based on 37 completed surveys.

Table 2 reports survey representation for free ridership and spillover question batteries for the PGL-NSG Home Energy JumpStart program.

**Table 2. Free Ridership and Spillover Decision Maker Survey Disposition**

Online survey fielding	Population	Sample	Target Completes	Actual Completes	Analyzed Completes	Response Rate
Free ridership	1,590	653	62	60	53	8%
Spillover	3,631	219	53	38	37	17%

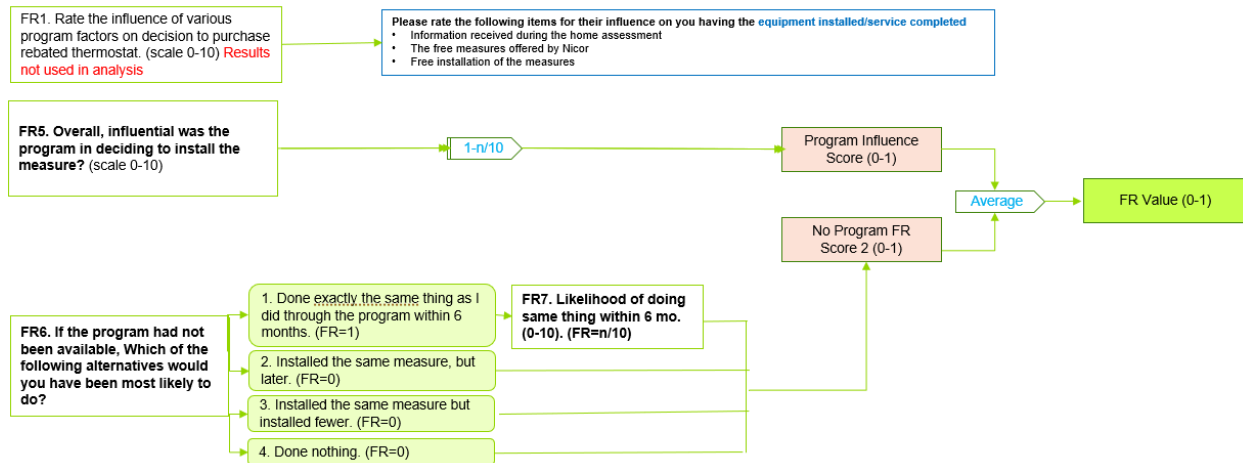
Source: Evaluation team research

Note: Both free ridership and spillover samples were a census attempt; target completes based on 90/10 confidence/precision.

### 3. Free Ridership and Spillover Protocols

For free ridership, the evaluation team applied a protocol that deviates from the TRM and is described in Guidehouse’s May, 5, 2023 memo to SAG<sup>3</sup>. This algorithm is depicted in Figure 1.<sup>4</sup> For spillover, the evaluation team applied the relevant protocol from the Illinois TRM version 11, depicted in Figure 2.

**Figure 1. Alternative Residential Direct Install (Free Measures) Free Ridership Algorithm**

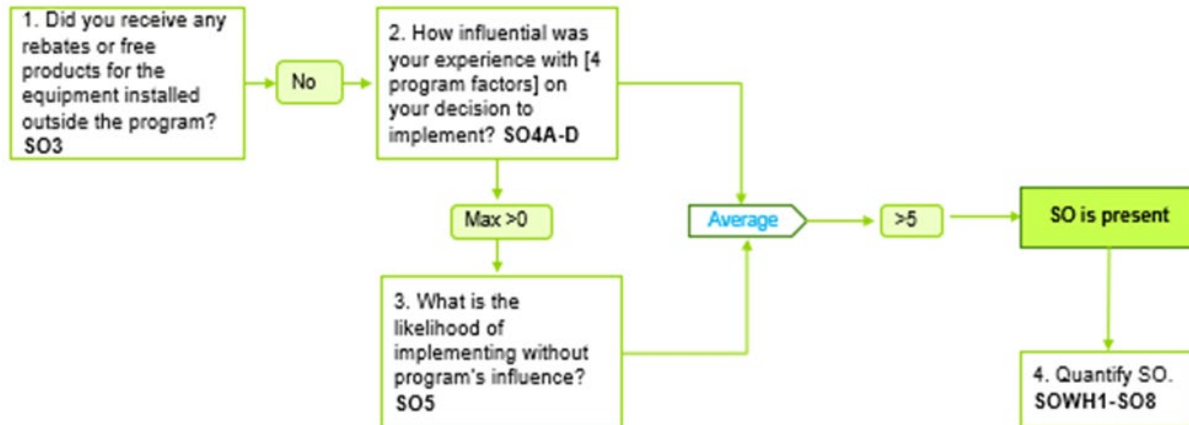


Source: SAG Deviation Memo for Res FR 2023-05-10

<sup>3</sup> SAG Deviation Memo for Res FR 2023-05-10

<sup>4</sup> Although the free ridership survey included questions for both the TRM FR algorithm and the alternative FR algorithm, this NTG results memo presents the results of the alternative algorithm. See also SAG-Deviation-Memo-for-Res-FR-Test-Results-2023-09-08-002.pdf which describes the way the evaluation team tested the TRM and alternative algorithms. The team found that the alternative protocol more frequently matched verbatim responses than did the established TRM protocol.

**Figure 2. TRM Residential Direct Install Spillover Algorithm**



Source : 2022 Illinois TRM Version 11.0, Volume 4

## 4. Detailed NTG Results

Table 3 provides a numerical breakdown of the surveys excluded from the PGL-NSG Home Energy Jumpstart analysis.

**Table 3. Excluded Surveys Breakdown**

Response Disposition	No Cost, Direct Install and Virtual Assessment FR	Program SO
Excluded: Invalid	5	1
Excluded: Non-response	2	0
<b>Total of Excluded Responses</b>	<b>7</b>	<b>1</b>
Analyzed Sample	53	37

Source: Evaluation team analysis 2023

### 4.1 Free Ridership Consistency Check Analysis

In the process of performing the consistency check analysis, the evaluation team followed a specific protocol to review inconsistent responses.<sup>5</sup> When a respondent's Program Influence (PI) and (No Program) NP scores are inconsistent with each other, the evaluation flags the responses for a consistency check. Inconsistent PI and NP scores indicate either high program influence and high likelihood of purchasing a measure without a rebate, or low program influence and low likelihood of making the purchase without a rebate. Two evaluators independently review each flagged respondent's PI and NP score and compare these to their verbatim response to the following question:

<sup>5</sup> 2022 Illinois TRM Version 11.0, Volume 4, Section 4.4.1.1.3.

*Overall, how influential was the PG-NSG program – including receiving the free items, assessment of your home, and installation assistance -- in your decision to install the free <measure>?*

The evaluator then determines whether the verbatim 1) reflects the PI and NP score and requires no adjustment to the FR value; 2) reflects only one of the two scores, requiring omitting the inconsistent score to calculate the FR; and 3) does not answer the question, indicating the respondent failed to address the question and removing the respondent from the analyzed sample. In general, for surveys with more than 30 flagged responses, the evaluation team checks consistency for 30 randomly selected inconsistent responses. The team then conducts a t-test of the original FR values and the consistency check-adjusted values. If the t-test indicates a statistically significant difference, then the evaluation team is to check consistency for all inconsistent responses; if it indicates no statistically significant difference, then no adjustments are needed.

Table 4 provides a numerical breakdown of the surveys excluded from the PGL-NSG Home Energy Jumpstart analysis for inconsistent No-Program and Program Influence scores.

**Table 4. Consistency Check Adjustments**

Adjustment	No Cost, Direct Install and Virtual Assessment FR
Evaluated to require no Exclusion	0
Evaluated to Exclude NP Score	9
Evaluated to Exclude PI Score	2
Omitted after evaluation	2

Source: Evaluation team analysis 2023

## 4.2 Free Ridership Component Scores

As detailed in Figure 1, FR was calculated based on averaging two component scores, the program influence (PI) score and the no program (NP) score.

**Table 5. Free Ridership Component Scores**

Strata	Average Program Influence Score	Average No Program Score	Free Ridership
No Cost, Direct Install and Virtual Assessment	0.13	0.12	0.10

Note: Component scores for PI and NP exclude inconsistent responses.

Source: Evaluation team research

## 4.3 Spillover Estimation

As outlined in the TRM, Guidehouse attributes a respondent’s savings from non-rebated energy efficiency improvements to the Home Energy Jumpstart Program if the following condition is met

- the respondent’s average of Attribution Score 1 and (10 minus Attribution Score 2) must exceed 5.0.

Of the 37 spillover survey respondents combined for PGL and NSG, 34 reported that they received energy-savings products from PGL-NSG; 26 indicated that participating in the Home Energy Jumpstart Program influenced them to install additional energy efficient equipment. For 7 of the 26 spillover candidates, Guidehouse determined that the average of their two attribution scores was greater than 5.0 and that they installed equipment with gas savings that were quantifiable. The spillover improvements included a water heater, faucet aerator, an ENERGY Star clothes washer, as well as weatherization measures like duct sealing and insulation, air sealing and wall/attic insulation.

A total of five respondents indicated that they installed SO measures which they also received through the program. These measures included programmable thermostats, showerheads, air sealing and weatherization equipment. Guidehouse removed the savings for these measures from the SO calculations to avoid potential double counting with program savings.

Table 6 outlines energy efficiency improvements that respondents made that were influenced but not rebated by the program and how the improvements contributed to total program spillover. The spillover rates were calculated by dividing the Therms spillover by the Home Energy Jumpstart Program savings for the 38 respondents that completed the spillover survey.

**Table 6. Spillover Research Results by Measure**

Measure	Measures Contributing to Spillover	Spillover Therms	Spillover Rate for Therms
Water Heater	1	63.8	3.94%
Faucet Aerators	1	14.0	0.87%
Water Temperature Setback	3	10.5	0.65%
Domestic Hot Water Pipe Insulation	1	20.1	1.24%
Lowered Temp. for Dishwasher & Clothes Washer	1	3.0	0.19%
Furnace Tune-up	1	25.1	1.55%
Duct Sealing	2	2.8	0.18%
Duct Insulation	1	1.3	0.08%
Wall/Attic Insulation	3	4.8	0.30%
<b>Total</b>	<b>14</b>	<b>145.5</b>	<b>8.98%</b>

Source: Guidehouse CY2022 Home Energy Jumpstart Program Spillover Survey data, program tracking data, and Guidehouse team analysis, see Table 7.

Note: Totals may not sum due to rounding.

The quantity of measures does not equal the number of respondents because individual respondents may have completed multiple SO measures.

Table 7 shows the distribution of gas spillover savings among the nine respondents who indicated any spillover.

**Table 7. Spillover Research Results by Respondent**

Participant	Measures Installed	Spillover Therms	Share of Total Therms Spillover
North Shore Gas			
Respondent 1	4	15	10%
Respondent 2	1	64	44%
People's Gas			
Respondent 1	2	3	2%
Respondent 2	3	5	3%
Respondent 3	2	27	19%
Respondent 4	1	3	2%
Respondent 5	6	28	19%

Source: Guidehouse CY2022 Home Energy Jumpstart Program Spillover Survey data, program tracking data, and Guidehouse team analysis

#### 4.4 Free Ridership and Spillover to Create Program Net-to-Gross Ratio

Table 8 details the free ridership and spillover scores calculated for no cost, direct install and virtual assessment measures, and the program spillover rate. To calculate the Net-to-Gross ratio, the free ridership was subtracted from 1 and the resulting number was added to the participant spillover rate, producing the NTG ratio ( $1 - FR + PSO = NTGR$ )<sup>6</sup>.

**Table 7. Free Ridership and Participant Spillover for PGL-NSG HEJ Program**

Strata	Free Ridership	Participant Spillover	NTG Ratio
No Cost, Direct Install and Virtual Assessment	0.10 <sup>*</sup>	0.09 <sup>**</sup>	0.99

Source: Evaluation team research

Note: <sup>\*</sup>FR includes only door sweep, hot water pipe insulation, programmable thermostat, thermostat education, weatherstripping. <sup>\*\*</sup>Participant spillover applies to all measures in the program, excluding advanced thermostat.

##### 4.4.1 Confidence and Precision Analysis

The free ridership value for no cost, direct install, and virtual assessment measures along with precision estimate, are shown in Table 9. Relative precision (at 90% confidence interval) is 4 percent.

<sup>6</sup> For advanced thermostat,  $NTG = 1 - FR/2 + NPSO$  (nonparticipant spillover).

**Table 8. Free Ridership and Relative Precision at 90% Confidence Level**

Measure Installed	Free Ridership	Relative Precision (%)
No Cost, Direct Install and Virtual Assessment	0.10	4%

Source: Evaluation team research



## Appendix A. PGL-NSG Home Energy Jumpstart Program NTG History

**Table A-1. Peoples Gas and North Shore Gas Home Energy Jumpstart Program History**

Peoples Gas and North Shore Gas Home Energy Jumpstart	
<b>GPY1</b>	<p><b>Peoples Gas NTG:</b> 0.86</p> <p><b>Free ridership:</b> Not estimated separately from NTG</p> <p><b>Spillover:</b> Not estimated separately from NTG</p> <p><b>Water Efficient Showerheads NTG:</b> 0.93</p> <p><b>Water Efficient Kitchen Aerators NTG:</b> 0.94</p> <p><b>Water Efficient Bath Aerators NTG:</b> 0.94</p> <p><b>Pipe Wrap NTG:</b> 0.67</p> <p><b>Method and Source:</b> Program launched in Peoples Gas in the fourth quarter of GPY1 and experienced limited participation for the year. GPY1 NTG was based on evaluation review and recommended acceptance of program administrator ex ante NTG assumptions by measure, weighted by program-level measure savings to a single NTG ratio for the program.</p>
<b>GPY2</b>	<p><b>Peoples Gas NTG:</b> 0.96</p> <p><b>Free ridership:</b> 0.08</p> <p><b>Participant Spillover:</b> 0.04</p> <p><b>North Shore Gas NTG:</b> 0.96</p> <p><b>Free ridership:</b> 0.08</p> <p><b>Participant Spillover:</b> 0.04</p> <p><b>Method and Source:</b> Evaluation research consisting of GPY2 participating customer self-reports. In GPY2, the Peoples Gas program distributed measures to 4,004 participants, and the North Shore Gas program distributed measures to 348 participants. A total of 80 participants were sampled from the combined population (71 from Peoples Gas, 9 from North Shore Gas).</p>
<b>GPY3</b>	<p><b>Peoples Gas NTG:</b> 0.96</p> <p><b>Free ridership:</b> 0.08</p> <p><b>Participant Spillover:</b> 0.04</p> <p><b>North Shore Gas NTG:</b> 0.96</p> <p><b>Free ridership:</b> 0.08</p> <p><b>Participant Spillover:</b> 0.04</p> <p><b>Method and Source:</b> Deemed by SAG consensus from GPY2 evaluation research.</p>
<b>GPY4</b>	<p><b>Peoples Gas NTG:</b> 0.96</p> <p><b>Free ridership:</b> 0.08</p> <p><b>Participant Spillover:</b> 0.04</p> <p><b>North Shore Gas NTG:</b> 0.96</p> <p><b>Free ridership:</b> 0.08</p> <p><b>Participant Spillover:</b> 0.04</p> <p><b>Method and Source:</b> Deemed by SAG consensus. Values from GPY2 evaluation research.</p>
<b>GPY5</b>	<p><b>Peoples Gas and North Shore Gas Deemed NTG:</b> 0.96</p> <p><b>Free ridership:</b> 0.08</p> <p><b>Participant Spillover:</b> 0.04</p> <p><b>Method and Source:</b> Values from GPY2 evaluation research.</p>

Peoples Gas and North Shore Gas Home Energy Jumpstart	
GPY6	<p><b>Peoples Gas and North Shore Gas Deemed NTG:</b> 0.96</p> <p><b>Free ridership:</b> 0.08</p> <p><b>Participant Spillover:</b> 0.04</p> <p><b>Method and Source:</b> Values from GPY2 evaluation research.</p>
2018 (GPY7)	<p><b>All Measures Except Faucet Aerators:</b>  <b>NTG:</b> 0.96 <b>Free Ridership:</b> 0.08 <b>Participant Spillover:</b> 0.04</p> <p><b>Faucet Aerators:</b>  <b>NTG:</b> 1.04 <b>Free Ridership:</b> 0.00 <b>Participant Spillover:</b> 0.04</p> <p><b>Method:</b> For measures except faucet aerators: No new research; retained GPY6 final values; FR &amp; PSO (IL EM&amp;V GPY2); NPSO (no value). For faucet aerators: TRM version 6.0 specifies that the free ridership for faucet aerators be set at zero when estimating gross savings using the TRM specified baseline average water flow rate.</p>
2019	<p><b>HEJ - Smart Thermostats; NTG=NA</b></p> <p>The savings for natural gas heating provided in Illinois TRM Version 7.0, Section 5.3.16 were derived from a billing regression analysis with an experimental design that does not require further net savings adjustment.</p> <p><b>HEJ - Faucet Aerators and Showerheads NTG=1.02</b></p> <p>FR=0: TRM version 7.0 specifies that the free ridership for faucet aerators and showerheads be set at zero when estimating gross savings using the TRM specified baseline average water flow rate. PSO=0.02: 2018 Survey of 110 GPY6 participants. Memo: Net-to-Gross Research Results from GPY6 for the Peoples Gas and North Shore Gas Home Energy Jumpstart Program, Navigant, 8/23/18, second revision 9/19/18.</p> <p><b>HEJ - Programmable Thermostat NTG=0.88</b></p> <p>FR=0.14 and PSO=0.02: 2018 Survey of 110 GPY6 participants. Memo: Net-to-Gross Research Results from GPY6 for the Peoples Gas and North Shore Gas Home Energy Jumpstart Program, Navigant, 8/23/18, second revision 9/19/18. FR: 28 responses for this measure.</p> <p><b>HEJ - Re-Programming Thermostat NTG=0.80</b></p> <p>FR=0.22 and PSO=0.02: 2018 Survey of 110 GPY6 participants. Memo: Net-to-Gross Research Results from GPY6 for the Peoples Gas and North Shore Gas Home Energy Jumpstart Program, Navigant, 8/23/18, second revision 9/19/18. FR: 21 responses for this measure. ICC Staff suggestion with SAG consensus for Nicor Gas was combining the Nicor Gas (12 responses) and PGL &amp; NSG (21 responses) survey question results for the re-programming tstat value (combined 33 responses average FR=0.34), and then take an average of those results and the Nicor Gas water heater temp setback results (FR = 0.09) (SAG consensus). Final FR=0.22. Navigant recommended the same value for PGL &amp; NSG.</p> <p><b>HEJ - Boiler Pipe Insulation, DHW Pipe Insulation NTG=0.88</b></p> <p>FR=0.14 and PSO=0.02: 2018 Survey of 110 GPY6 participants. Memo: Net-to-Gross Research Results from GPY6 for the Peoples Gas and North Shore Gas Home Energy Jumpstart Program, Navigant, 8/23/18, second revision 9/19/18. Boiler pipe insulation and pipe insulation domestic hot water (DHW) outlet – had low participation in GPY6 (about 3 percent of</p>

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**Peoples Gas and North Shore Gas Home Energy Jumpstart**

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overall program savings combined) and were not represented in the GPY6 HEJ survey research. Navigant recommends a free ridership of 0.14 for those measures, matching the findings for programmable thermostats, because they are equipment measures whereas re-programming thermostats is a service measure.

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**2020****HEJ - Smart Thermostats; NTG=NA**

The savings for natural gas heating provided in Illinois TRM Version 8.0, Section 5.3.16 were derived from a billing regression analysis with an experimental design that does not require further net savings adjustment.

**HEJ - Faucet Aerators and Showerheads NTG=1.02**

FR=0: TRM version 8.0 specifies that the free ridership for faucet aerators and showerheads be set at zero when estimating gross savings using the Residential Section of the TRM specified baseline average water flow rate. PSO=0.02: 2018 Survey of 110 GPY6 participants. Memo: Net-to-Gross Research Results from GPY6 for the Peoples Gas and North Shore Gas Home Energy Jumpstart Program, Navigant, 8/23/18, second revision 9/19/18.

**HEJ - Programmable Thermostat NTG=0.88**

FR=0.14 and PSO=0.02: 2018 Survey of 110 GPY6 participants. Memo: Net-to-Gross Research Results from GPY6 for the Peoples Gas and North Shore Gas Home Energy Jumpstart Program, Navigant, 8/23/18, second revision 9/19/18. FR: 28 responses for this measure.

**HEJ - Re-Programming Thermostat NTG=0.80**

FR=0.22 and PSO=0.02: 2018 Survey of 110 GPY6 participants. Memo: Net-to-Gross Research Results from GPY6 for the Peoples Gas and North Shore Gas Home Energy Jumpstart Program, Navigant, 8/23/18, second revision 9/19/18. FR: 21 responses for this measure. ICC Staff suggestion with SAG consensus for Nicor Gas was combining the Nicor Gas (12 responses) and PGL & NSG (21 responses) survey question results for the re-programming tstat value (combined 33 responses average FR=0.34), and then take an average of those results and the Nicor Gas water heater temp setback results (FR = 0.09) (SAG consensus). Final FR=0.22. Navigant recommended the same value for PGL & NSG.

**HEJ - Boiler Pipe Insulation, DHW Pipe Insulation NTG=0.88**

FR=0.14 and PSO=0.02: 2018 Survey of 110 GPY6 participants. Memo: Net-to-Gross Research Results from GPY6 for the Peoples Gas and North Shore Gas Home Energy Jumpstart Program, Navigant, 8/23/18, second revision 9/19/18. Boiler pipe insulation and pipe insulation domestic hot water (DHW) outlet – had low participation in GPY6 (about 3 percent of overall program savings combined) and were not represented in the GPY6 HEJ survey research. Navigant recommends a free ridership of 0.14 for those measures, matching the findings for programmable thermostats, because they are equipment measures whereas re-programming thermostats is a service measure.

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**2021, 2022****HEJ - Smart Thermostats; NTG=0.90**

**Method:** The heating savings factor for residential advanced thermostats is based on a consumption data analysis using matching to non-participants. The values are therefore between net and gross with respect to free ridership. Like all consumption data analyses, they are net with respect to participant spillover and gross with respect to non-participant spillover.

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**Peoples Gas and North Shore Gas Home Energy Jumpstart**

For more detail, see Table 5-3 in Volume 4 of the IL-TRM. Consistent with Section 7.2 of the Illinois EE Policy Manual, applicable net-to-gross adjustments to the savings will be determined as part of the annual SAG net-to-gross process. Considering the guidance of TRM Table 5.3, the evaluators recommend a NTG of 0.90.

**HEJ - Faucet Aerators and Showerheads NTG=1.02**

FR=0: The IL TRM specifies that the free ridership for aerators and showerheads be set at zero when estimating gross savings using a baseline average flow rate that includes the effect of existing low flow fixtures. PSO=0.02: 2018 Survey of 110 GPY6 participants. Memo: Net-to-Gross Research Results from GPY6 for the Peoples Gas and North Shore Gas Home Energy Jumpstart Program, Navigant, 8/23/18, second revision 9/19/18.

**HEJ - Programmable Thermostat NTG=0.88**

FR=0.14 and PSO=0.02: 2018 Survey of 110 GPY6 participants. Memo: Net-to-Gross Research Results from GPY6 for the Peoples Gas and North Shore Gas Home Energy Jumpstart Program, Navigant, 8/23/18, second revision 9/19/18. FR: 28 responses for this measure.

**HEJ - Re-Programming Thermostat NTG=0.80**

FR=0.22 and PSO=0.02: 2018 Survey of 110 GPY6 participants. Memo: Net-to-Gross Research Results from GPY6 for the Peoples Gas and North Shore Gas Home Energy Jumpstart Program, Navigant, 8/23/18, second revision 9/19/18. FR: 21 responses for this measure. ICC Staff suggestion with SAG consensus for Nicor Gas was combining the Nicor Gas (12 responses) and PGL & NSG (21 responses) survey question results for the re-programming tstat value (combined 33 responses average FR=0.34), and then take an average of those results and the Nicor Gas water heater temp setback results (FR = 0.09) (SAG consensus). Final FR=0.22. Navigant recommended the same value for PGL & NSG.

**HEJ - Boiler Pipe Insulation, DHW Pipe Insulation NTG=0.88**

FR=0.14 and PSO=0.02: 2018 Survey of 110 GPY6 participants. Memo: Net-to-Gross Research Results from GPY6 for the Peoples Gas and North Shore Gas Home Energy Jumpstart Program, Navigant, 8/23/18, second revision 9/19/18. Boiler pipe insulation and pipe insulation domestic hot water (DHW) outlet – had low participation in GPY6 (about 3 percent of overall program savings combined) and were not represented in the GPY6 HEJ survey research. Navigant recommends a free ridership of 0.14 for those measures, matching the findings for programmable thermostats, because they are equipment measures whereas re-programming thermostats is a service measure.

**HEJ - Leave-Behind Kit (Measures are Shower Timer, Cell Foam Weatherstripping, and Door Sweep). NTG = 0.88:** Leave Behind Kits are a new offering of self-install measures. Evaluator recommendation is a free ridership of 0.14 for those measures and program-level spillover of 0.02, matching the findings for HEJ pipe insulation.

*Source: Peoples Gas (PGL) and North Shore Gas (NSG) History of NTG Values for GPY1 through 2021 Updated to include NTG Values for 2022 September 30, 2021*