To:	Nicor Gas, Elizabeth Horne, David Brightwell, ICC Staff
CC:	Laura Agapay-Read, Jeff Erickson, Guidehouse
From:	Celina Aguilar, Guidehouse; Theresa Wells, George Frymire, EcoMetric
Date:	August 25, 2025
Re:	Net-to-Gross Research Results for Nicor Gas Home Energy Efficiency Rebates Participant & Trade Ally Free Ridership and Spillover Surveys

1. Executive Summary

This memo presents findings from the net-to-gross (NTG) study of the Nicor Gas Home Energy Efficiency Rebates (HEER) Program. The participant free ridership (FR) results for this program are estimated according to the FR algorithm specified in the deviation memo[1] Guidehouse provided to Illinois Stakeholder Advisory Group (IL SAG) in 2025. The team gathered FR and spillover (SO) information via online surveys to two populations: 1) participating Nicor Gas HEER customers to assess the impact of the program on the customer's decision to pursue energy efficient upgrades and 2) active trade allies[2] to assess the program impact on the contractor's decision to recommend and sell energy efficient equipment. Guidehouse surveyed residential customers and trade allies who participated in the program between January 2024 and December 2024 for free ridership and between January 2023 and December 2023 for spillover. The NTG results also incorporates FR from a Nicor Gas Advanced Thermostats study that Guidehouse conducted in 2024 for customers who purchased advanced thermostats through ComEd's Online Marketplace (OLM). The period of participation surveyed as part of that effort began the second half of 2022 and ended with the first quarter of 2023.

Table 1 summarizes the HEER Program FR and SO research findings based on the participant and trade ally research and includes results from GPY2 research on non-participant spillover from inactive trade allies. The NTG ratio for advanced thermostats is 1.02 and all other measures is 1.00.

[1] https://www.ilsag.info/wp-content/uploads/Guidehouse_SAG_Deviation-Memo-on-Residential-Freeridership-Protocol-2025-03-06.docx

[2] In this memo we use the term "trade ally" to refer to the contractors who help deliver the program to residential customers.

Table 1. Net-to-Gross Research Results for Home Energy Efficiency Rebates Program

Program Measure	Free Ridership	Participant Spillover	Spillover from Active Trade Allies	Non-Participant Spillover from Inactive Trade Allies*	NTG Ratio**
Advanced thermostats	0.18	0.02	0.10	0.11	1.02
Other measures	0.23				1.00

*Inactive trade ally NPSO is from previous research. See Section 6.
** 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, are net with respect to participant spillover, and gross with respect to non-participant spillover. For more detail, see Table 5-3 in Volume 4 of the TRM. Guidehouse recommends NTG = 1 - FR/2 + NPSO for residential advanced thermostats.
Source: Evaluation team analysis

1.1 Free Ridership and Spillover Research Sample Disposition

Guidehouse fielded the participant and trade ally online surveys using Qualtrics web survey software. For the non-OLM participant surveys, the team emailed survey invitations to residential customers who had bought program-incentivized measures between January 2024 and December 2024 for free ridership, and between January 2023 and December 2023 for spillover. For the OLM survey, participation began late in 2022 and ended the first quarter of 2023. The split approach captures more recent decision-making with free ridership and allows additional time for spillover actions to occur. A $20 incentive was offered for completion of the FR survey that was fielded in 2025. No incentives were offered for the SO or OLM surveys. For the non-OLM surveys, the free ridership participant was fielded from April to June 2025, and the participant spillover survey was fielded from April to May 2025. The OLM survey was fielded in May 2025, and after the initial survey invitation email, the team emailed two reminders to encourage completion of the survey.

The trade ally survey targeted trade allies who sold program-incentivized projects in 2024. The team launched one survey with free-ridership and spillover questions to a census of 249 trade allies. A $50 incentive was offered to trade allies who qualified for and completed the survey. The trade ally survey was in the field from May to June 2025. As with the participant survey efforts, after an initial survey invitation email, the team emailed two reminders to encourage completion of the survey.

Table 2 and Table 3 present the survey fielding disposition for the online surveys.

Table 2. Participant and Trade Ally Free Ridership Survey Fielding Disposition

Category	Total Population of Unique Participants	Number of Participants Sampled	Target Completes	Actual Completes	Analyzed Completes	Response Rate
OLM Residential Participants	24,406	7,249	400	1,081	925	13%
Residential Participants	15,923	2,728	83	278	278	10%
Trade Allies	249	249	47	82	82	33%

Source: Evaluation team analysis

Table 3. Participant and Trade Ally Spillover Survey Fielding Disposition

Category	Sample of Unique Participants	Target Completes	Actual Completes	Additional Efficiency Improvements	Qualified for Spillover
Residential Participants	25,955	99	91	31	11
Trade Allies	249	47	75	35	25

Source: Evaluation team analysis

1.2 Free Ridership and Spillover Protocols

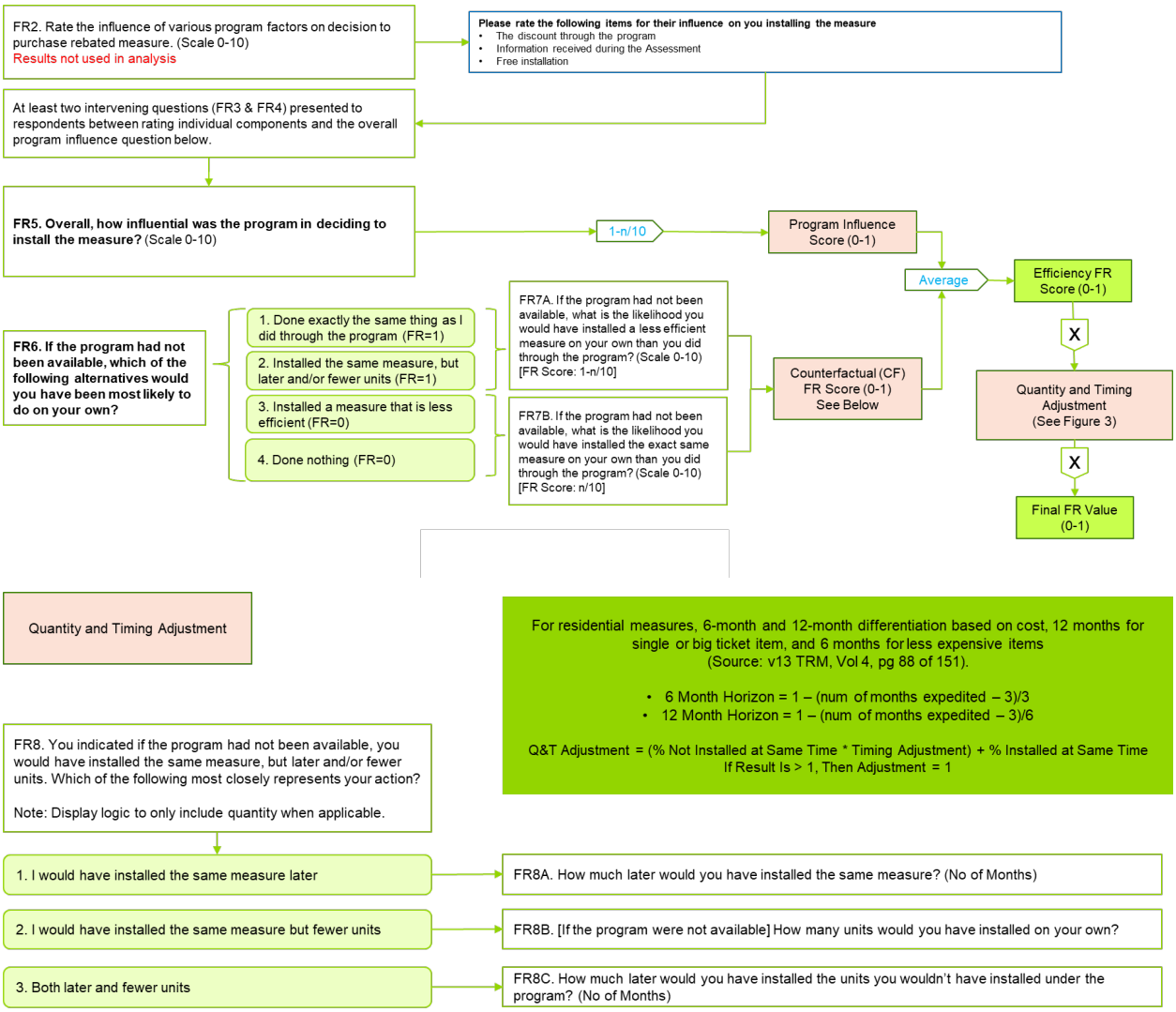
Fo non-OLM measures, the evaluation team applied the participant FR protocol from Guidehouse's 2025 deviation memo and combined the results with the trade ally FR using the methodology laid out in TRM Section 5.1, "Combining Participant and Trade Ally Free Ridership Scores." OLM advanced thermostat FR results are estimated according to the FR algorithm specified in the deviation memo Guidehouse provided to IL SAG in 2023[3].

1.2.1. Participant Free Ridership Estimation

Figure 1 describes the algorithm used to calculate FR for the Nicor Gas Home Energy Efficiency Rebates program participant surveys.

[3] https://www.ilsag.info/wp-content/uploads/SAG-Deviation-Memo-for-Res-FR-2023-05-10.pdf

Figure 1. Residential Prescriptive Rebate Free Ridership Protocol

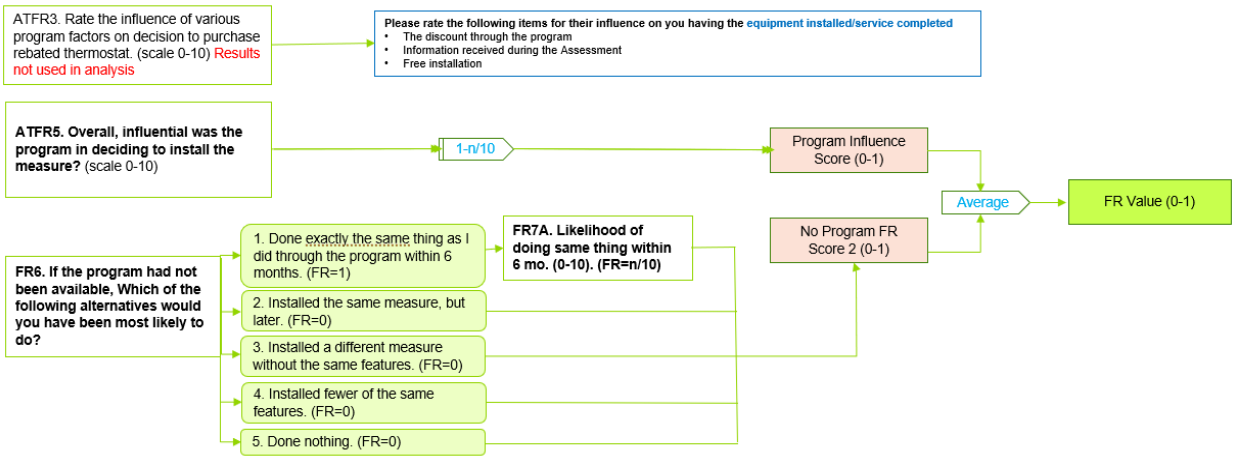


Source: Guidehouse. https://www.ilsag.info/wp-content/uploads/Guidehouse_SAG_Deviation-Memo-on-Residential-Freeridership-Protocol-2025-03-06.docx

Note: Section 4.4.1 (pg. 79 of 149) of the IL TRM Version 13.0 specifies that the participant should be asked their likelihood of purchasing an energy efficient item within 6 or 12 months, depending on the efficiency item being installed (12 months for a single or big-ticket item (e.g., furnace, boiler, insulation, etc.) and 6 month for a less expensive item (e.g., faucets, thermostats, etc.). Hence Guidehouse will include either 6 or 12 months depending on the type of measure customers install through the program.

The FR algorithm for the OLM smart thermostats is outlined in Figure 2.

Figure 2. Alternative Smart Thermostat Free Ridership Overview

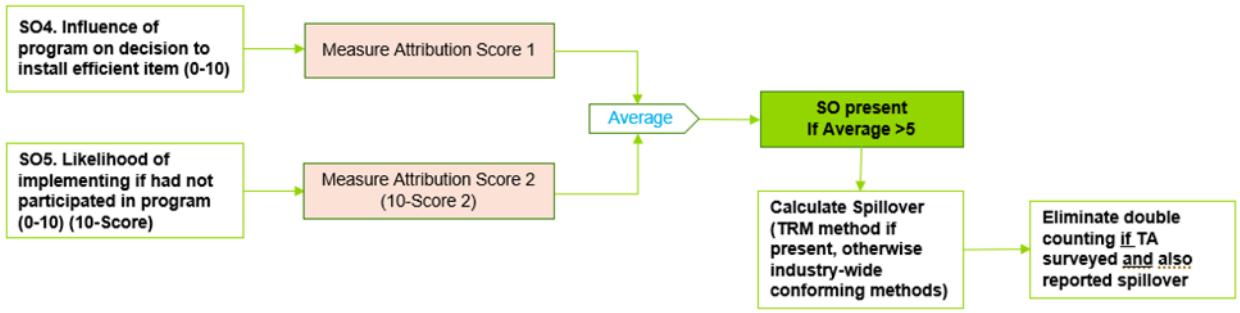


Source: Guidehouse. https://www.ilsag.info/wp-content/uploads/SAG-Deviation-Memo-for-Res-FR-2023-05-10.pdf

1.1. Participant Spillover Estimation

The evaluation team calculated participant spillover based on TRM algorithm summarized in Figure 3.

Figure 3. TRM Residential Spillover Algorithm

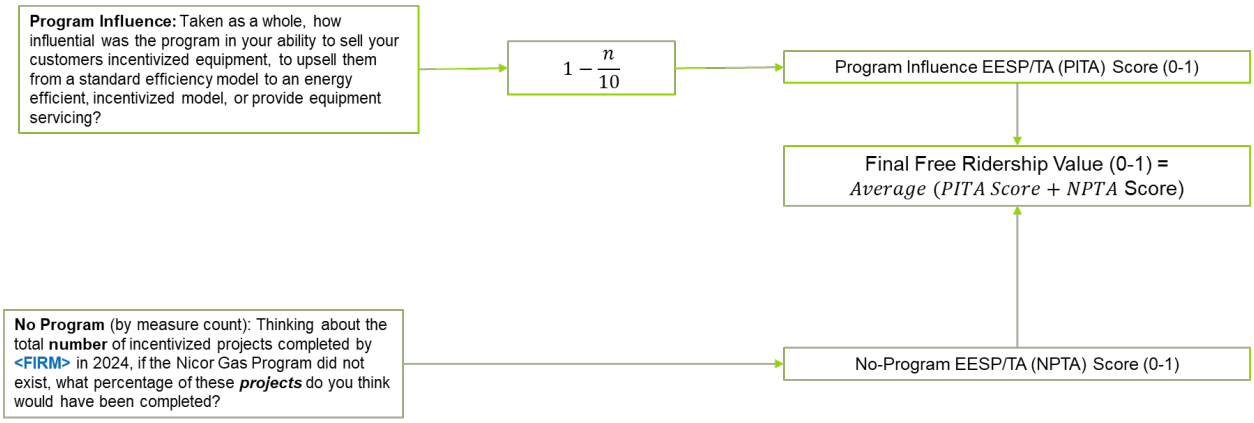


Source: Guidehouse drafted this algorithm based on content from the 2024 Illinois TRM Volume 13.0, Compiled Version, Sections 3.1.2 and 3.1.3 – Pages 1629-1632 and pages 1632-1636, respectively. Illinois 2024 TRM.

1.2. Trade Ally Free Ridership Estimation

TRM does not specify an approach for measuring the trade ally perspective of participant FR. For this study, Guidehouse used the following method to assess participant FR from a trade ally perspective. This methodology is summarized in Figure 4 below.

Figure 4. Trade Ally Free Ridership Algorithm

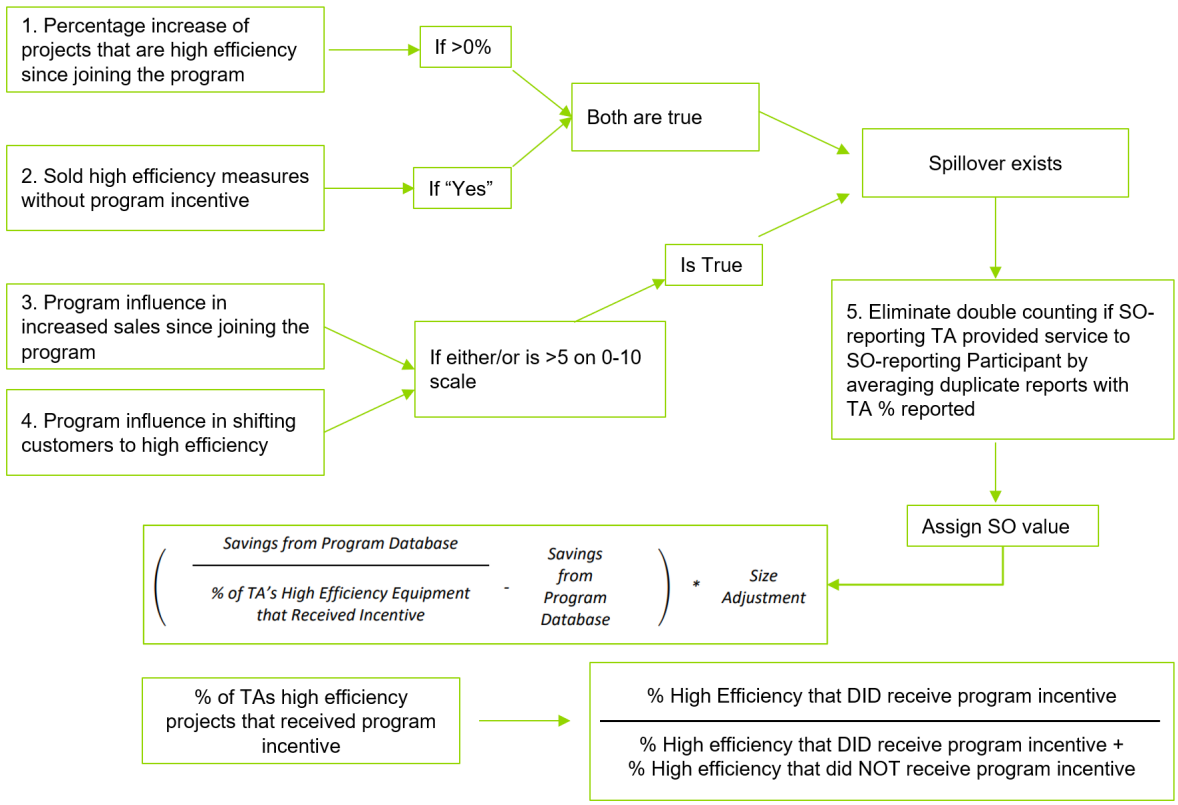


Source: Guidehouse

1.2.2. Trade Ally Spillover Estimation

The evaluation team quantified the trade ally's perspective of participant spillover using the methodologies laid out in TRM Section 5.2.1. The team assessed trade ally spillover by estimating the increase in installation/sales of high efficiency equipment/products that are influenced by the program but not rebated, as Figure 5 shows.

Figure 5. Trade Ally Spillover Algorithm



Source: Guidehouse

2. Participant and Trade Ally Free Ridership Results

Using the protocols detailed above and data collected during the participant and trade ally surveys, Guidehouse calculated FR estimates for the program participants and trade allies. Table 4 below presents their relative precision[4]. Section 3.2 details the process of combining participant and trade ally FR estimates.

Table 4. Participant and Trade Ally Free Ridership Research Results

Population	Relative Precision @ 90% CI
Participant (all measures sold by trade allies)	0.033
Trade Ally	0.023

Source: Evaluation Team Analysis

We calculated program free ridership as a savings weighted average of measure free ridership. We calculated measure FR combining participant and trade ally FR for measures that were sold by trade allies. To calculate the advanced thermostat FR, Guidehouse combined the results from the OLM advanced thermostat survey, the results from the non-OLM advanced thermostat survey, and the results from the trade ally survey. Table 5 shows the FR results by the three study efforts.

Table 5. Free Ridership Research Results by Population and Measure

Population	Free Ridership
Participant advanced thermostat	0.33
Online marketplace	0.12
Retail	0.37
TA assisted	
Participants (Incentives to customer)	0.37
Participants (Inventives to TA)	0.25
Participant other measures	0.40
Trade Allies	0.14

Source: Evaluation Team Analysis

2.1. Free Ridership Consistency Check Analysis

The evaluation team checked for consistency in free rider responses by asking respondents to describe in their own words any influence that the program had on their decision to participate in the program, or what they would have done if the program and its technical assistance and financial incentives did not exist.

[4] The analysis estimates relative precision at the 90 percent confidence level by calculating the standard error of the NTGR mean and adjusting for the total population size.

The evaluation team applied the consistency check protocol specified for non-residential programs in TRM Volume 4, Section 3.1.1.1.5 which states that a program Influence and Counterfactual consistency check is triggered when either of the following conditions is met:

1) The Program Influence FR Score is greater than 0.7 AND the Counterfactual FR Score is less than 0.3.

OR

2) The Program Influence FR Score is less than 0.3 AND the Counterfactual FR Score is greater than 0.7.

For respondents whose responses triggered consistency checks, the evaluation team reviewed their verbatim responses to determine the weight of the program influence against the counterfactual responses and timing adjustments to arrive at a free ridership score.

The evaluation team found no inconsistencies in the verbatim responses for the participant free ridership and so did not adjust scores for that calculation.

2.2. Combining Participant and Trade Ally Free Ridership

For measures that were sold through trade allies (and not online or in a retail location), Guidehouse calculated a combined participant and trade ally FR estimate utilizing the triangulation approach outlined in TRM Section 5.1 Volume 4. This approach rates the participant and trade ally survey data on three aspects: accuracy, validity, and representativeness, using a scale where 100% means "extremely so" and 0% means "not at all."

1. Accuracy: How likely is the approach to provide an accurate estimate of FR?
    a. We calculated the participant and trade ally portions based on a comparison of their relative precision (RP) values from the FR estimates.
    b. For this program, the Relative Precision (RP) from the participant surveys (0.021) was the same as that of the TA surveys (0.019). To base our Accuracy score on RP, we normalized and inverted the result using the equation below. This resulted in a weight of 48% for the participant data and 52% for the TA data.

$$Normalized\ Weight = 1 - (\frac{Participant\ or\ Trade\ Ally\ RP}{Participant\ RP + Trade\ Ally\ RP})$$

2. Validity: How valid are the data collected and the analysis? The evaluation team averaged quantitative and qualitative scoring for validity.
    a. The quantitative score for participants and trade allies was based on the number of completed interviews relative to their total population. A total of 193 of the 10,011 participant projects that were sold through a trade ally completed surveys, resulting in a normalized score of 6% (calculated using the formula below). In comparison, 82 out of 249 trade allies completed surveys, yielding a normalized score of 94%.

$$Normalized\ \%\ Weight = \frac{\%\ Complete\ for\ Participant\ or\ Trade\ Ally}{(\%\ Complete_{Participant} + \%\ Complete_{TradeAlly})}$$

b. The qualitative score reflects the nature of the surveys and the respondents. Participant surveys ask project-specific questions and, thus, are likely to have lower recall bias. In contrast, trade ally surveys cover multiple projects over the year. Alone these factors would lead us to score participant validity higher than trade allies. But because residential participants typically do not understand the market or all the ways the program brings home energy savings to them to the extent that trade allies do, we rate trade ally validity at 60% and participant validity at 40%.
c. By averaging the quantitative and qualitative scores, the final Validity scores are 23% for participants and 77% for trade allies.

3. Representativeness: How representative is the sample?
   We assigned 4% weight to the participant portion and 96% to the trade ally portion which are the normalized rates of program savings achieved by the respondents.

Table 6. Free Ridership Triangulation Weighting Approach

Free Ridership Triangulation Data and Analysis	Participant	Trade Ally
How likely is this approach to provide an accurate estimate of free ridership?	48%	52%
How valid is the data collected/analysis?	23%	77%
How representative is the sample?	4%	96%
Average Score (Weight)	**25%**	**75%**

Source: Evaluation Team analysis

The evaluation team used these weights and the formula below to combine participant FR and TA FR for **measures that were sold through trade allies.**

To calculate an overall FR ratio, the evaluation team first combined participant FR with the trade ally FR only for the measures where TAs were involved (i.e., not for retail or online marketplace advanced thermostats). Then the evaluation team calculated measure-level FR. The FR ratios were rolled up to the two measure categories (i.e., advanced thermostats and other measures) by weighting according to the measure type savings.

3. Participant and Trade Ally Spillover Results

Of the 91 participant survey respondents included in the participant spillover analysis, 31 reported that they had installed additional energy efficient measures, and of those, 29 indicated they had not received program incentives. Of the 29, 11 passed the spillover screening criteria,[5] and the evaluation team estimated gross energy savings from these non-rebated spillover measures at 267 therms. The gross energy savings of the 91 participants who responded to the survey were 12,108 therms, which resulted in a participant spillover rate 0.02.

[5] Respondents who did not receive a rebate or received a rebate but not from Nicor Gas and answers to the program influence and counterfactual questions resulted in a spillover score greater than five.

Of the 75 trade allies included in the trade ally analysis, 35 reported selling additional non-program incented high efficiency furnaces, boilers, tankless water heaters, or thermostats. Of the 35, 25 passed all spillover screening criteria, and the estimated gross energy savings from these non-rebated spillover measures was 99,226 therms. The gross energy savings of the 75 trade allies who responded to the survey were 1,023,963 therms which resulted in a trade ally spillover rate of 0.10.

To ensure that spillover from the participant and trade ally sources did not lead to double counting, the evaluation team examined the data to exclude any reported spillover transactions from participants who purchased their measure from a trade ally who reported spillover. We found one participant who qualified for spillover and was a customer of a qualified trade ally spillover respondent. The evaluation team removed the spillover measure from that participant, accounting for 22.5 therms, from the total participant spillover results to avoid double-counting.

Table 7 presents the participant and trade ally spillover results, as well as the total spillover calculated, which is the sum of those results. This is then combined with the FR rate to estimate the NTG ratio.

Table 7. Spillover Research Results

Population	Spillover Results
Participant Spillover	0.02
Trade Ally Spillover	0.10

Source: Evaluation Team Analysis

4. Final NTG Results and Recommendations

The final NTG value is calculated using the following formula[6]:

$$NTG = 1 - Free\ Ridership + Participant\ Spillover + Spillover\ from\ Active\ Trade\ Allies + NonParticipant\ Spillover\ from\ Inactive\ Trade\ Allies$$

The final, combined components of the NTG are shown in Table 8.

[6] 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, are net with respect to participant spillover, and gross with respect to non-participant spillover. For more detail, see Table 5-3 in Volume 4 of the TRM. Guidehouse recommends NTG = 1 - FR/2 + NPSO for residential advanced thermostats.

Table 8. Summary of Free Ridership, Spillover, and NTG Results

Program Measure	Free Ridership	Participant Spillover	Spillover from Active Trade Allies	Non-Participant Spillover from Inactive Trade Allies*	NTG Ratio**
Advanced thermostats	0.18	0.02	0.10	0.11	1.02
Other measures	0.23				1.00

*Inactive trade ally NPSO is from previous research. See Appendix.
** 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, are net with respect to participant spillover, and gross with respect to non-participant spillover. For more detail, see Table 5-3 in Volume 4 of the TRM. Guidehouse recommends NTG = 1 - FR/2 + NPSO for residential advanced thermostats.
Source: Evaluation team analysis

APPENDIX A. Home Energy Efficiency Rebates NTG History

	Home Energy Efficiency Rebate
GPY1	**NTG** 0.69 **Free-ridership** 37% **Spillover** 6% **Method:** Evaluation research consisting of customer self-report data from 74 program participants and 53 participating trade allies.
GPY2	**NTG** 0.69 **Free-ridership** 37% **Spillover** 6% **Method:** SAG deemed based on GPY1 research.
GPY3	**NTG** 0.79 **Free-ridership** 37% **Spillover** 16% **Method:** SAG deemed based on GPY1 research and spillover adjustment of 0.10.
GPY4	**NTG** 0.79 **Free-ridership** 37% **Spillover** 16% **Method:** NTG values for GPY4 were deemed using values from GPY3 and reported in Table 14 of the Nicor Gas filed Energy Efficiency Plan for GPY4-GPY6.
GPY5	**NTG** 0.79 **Free-ridership** 37% **Spillover** 16% **Method:** No new research. Values based on GPY1 (free-ridership and spillover) and GPY3 (spillover adder).
GPY6	**NTG** 0.79 **Free-ridership** 37% **Spillover** 16% **Method:** No new research. Values based on GPY1 (free-ridership and spillover) and GPY3 (spillover adder). Program NTG value of 0.79 may be used for an "HVAC Saves" furnace quality installation pilot/program.

	Home Energy Efficiency Rebate
2018 (GPY7)	**Home Energy Efficiency Rebates (all measures, excluding Duct Sealing, Air Sealing, and Insulation Measures)** **NTG:** 0.68 This NTG value is not recommended for air sealing, insulation, or duct sealing. **Free ridership:** 0.45 **Method**: Value is from GPY5 evaluation telephone survey research conducted with 100 GPY4 HEER Program participants. The FR result is based on applying TRM v6.0 NTG methodologies. The overall program FR value uses GPY4 HEER Program verified gross savings to weight measure category free ridership: AFUE 95 (FR=0.40, weight=69%); AFUE 97 (FR=0.44, weight=14%); other measures in survey (FR is not based on enough responses to report statistically significant results at the measure level, weight = 17%). Program measures that were not researched were assigned the overall FR average. Guidehouse described our concerns with the TRM v5.0 NTG algorithm and offered an alternative approach in an August 23, 2016, memo. Our alternative was not adopted for TRM v6.0, but the approach that did make it into TRM v6.0 addresses what we believed were weaknesses of TRM v5.0 and produces results similar to our August 23 recommended alternative. Guidehouse recommends the algorithm in TRM v6.0 over the algorithm in TRM v5.0 to estimate free ridership for residential prescriptive rebate programs. A Guidehouse memo dated December 22, 2016, provides further discussion. **Participant Spillover:** 0.02 **Method**: The PSO value is from GPY5 evaluation telephone survey research conducted with 100 GPY4 HEER Program participants. The PSO result is based on applying the TRM v5.0 methodologies to identify spillover candidates and estimating spillover savings using the Illinois TRM and Nicor Gas program data from GPY4. The TRM version 6.0 participant spillover methodology advises using a lower, more inclusive spillover threshold score of 5.0 rather than 7.0. Guidehouse re-examined our survey responses applying a threshold of 5.0, but no additional gas spillover was found. A Guidehouse memo dated December 16, 2016, provides further discussion. **Non-Participant Spillover**: 0.11 **Method**: Non-participant spillover value for 2018 (GPY7) is based on GPY2 evaluation research conducted for Peoples Gas (PGL) and North Shore Gas (NSG) to estimate spillover from non-participating trade allies. For statewide consistency, the methodology and survey instrument were derived from evaluation research completed for Ameren Illinois by Cadmus. For the spillover calculation, 59 interviews were conducted sampled from two groups of non-participating trade allies: 1) Trade allies that dropped out of the PGL or NSG program (so-called “drop out” trade allies): those who had participated in GPY1, but did not participate in GPY2; and 2) True non-participating trade allies - those who reported that they were aware of the PGL and NSG program, but had never participated. The value of 0.11 is a weighted average of 0.10 for Peoples Gas and 0.13 for NSG. Guidehouse recommends the NPSO value from GPY2 PGL & NSG research rather than the GPY1 Nicor Gas research value of 0.06 for these reasons: 1) the GPY2 methodology

	Home Energy Efficiency Rebate
	was consistent with evaluation research conducted for Ameren Illinois, 2) the GPY2 sample was slightly larger, and it was observed that trade allies overlap utility service territories, 3) GPY2 is the more recent study, and 4) it is logical that non-participants after the second program year better represent future non-participants than research conducted on a first-year population of a program ramping up. Home Energy Efficiency Rebates (all measures, excluding Programmable Thermostats, Duct Sealing, Air Sealing, and Insulation Measures) NTG: 0.72 Free ridership: 0.41 Method: Value is from GPY5 evaluation telephone survey research conducted with 100 GPY4 HEER Program participants. The FR result is based on applying TRM v6.0 NTG methodologies. The FR value shown excludes programmable thermostats from the NTG weighting. Results and weighting for furnaces: AFUE 95 (FR=0.40, wgt: 83%); AFUE 97 (FR=0.44, wgt: 17%). This NTG value may be used for an overall program NTG for measures excluding programmable thermostats, air sealing, insulation, and duct sealing (that is, for furnaces, boilers, tankless water heaters, and other space heating and water heating equipment). Participant Spillover: 0.02 (described above) Non-Participant Spillover: 0.11 (described above) For Duct Sealing, Air Sealing, and Insulation NTG: 0.90 Free ridership: 0.10 Spillover: 0.00 Method: The free ridership value was taken from the "Home Energy Savings Program GPY2/EPY5 Evaluation Report" prepared for Nicor Gas and ComEd (Guidehouse, 3/25/2014). Results for Nicor Gas for the weatherization component were FR=0.10. No recommendation was made for spillover. Guidehouse concludes the researched overall HEER Program NTG (either 0.68 or 0.72) is not reasonable for duct sealing, air sealing, and insulation. Duct sealing, air sealing, and insulation FR and PSO research is planned for Peoples Gas and North Shore Gas for the first half of 2017. Guidehouse may recommend updated free ridership and spillover values using data from the PGL & NSG Home Energy Rebate Program survey planned for the first half of 2017 if results are final prior to May 30, 2017.

	Home Energy Efficiency Rebate
2019-20	Home Energy Eff Rebates - HEER NTG value IF Basic Programmable thermostats are included in rebates offered (excludes advanced thermostats) NTG: 0.68 Method: No new research. Value retained from 2018 (GPY7). FR (Nicor Gas EM&V GPY5, 12/22/16 Guidehouse memo) & PSO (Nicor Gas EM&V GPY5, 12/16/16 Guidehouse memo); NPSO (PG & NSG GPY2). This NTG value does not cover air sealing, duct sealing, and insulation measures if rebated through the HEER Program. Home Energy Eff Rebates - HEER NTG value IF Basic Programmable thermostats are NOT included in rebates offered (excludes advanced thermostats) NTG: 0.72 Method: No new research. Value retained from 2018 (GPY7). FR (Nicor Gas EM&V GPY5, 12/22/16 Guidehouse memo) & PSO (Nicor Gas EM&V GPY5, 12/16/16 Guidehouse memo); NPSO (PG & NSG GPY2). This NTG represents the program if Nicor Gas removes basic programmable thermostats from the rebate offerings. This NTG value does not cover air sealing, duct sealing, and insulation measures if rebated through the HEER Program.

	Home Energy Efficiency Rebate
2021-3	For Furnaces >95 AFUE, All Boilers, and Other HVAC Equipment NTG: 0.84 Free ridership: 0.29 For Furnaces 97+ AFUE NTG: 0.86 Free ridership: 0.27 For All Furnaces, Boilers, and Other HVAC Equipment: Participant Spillover: 0.00 Active Trade Ally Non-Participant Spillover: 0.02 Inactive Trade Ally Non-Participant Spillover: 0.11 (PG & NSG GPY2). Free Ridership Method. AFUE >95: New research online (274 analyzed completes) and telephone (57 analyzed completes) survey of 2019 participants. AFUE 97+: New research online (33 analyzed completes) and telephone (12 analyzed completes) survey of 2019 participants. New research telephone survey of 2019 active trade allies (82 analyzed completes). AFUE >95 weighted 47.5% Participants (0.35) and trade allies 52.5% (0.24). AFUE 97+ weighted 46.2% Participants (0.31) and trade allies 53.8% (0.24). Participant Spillover Method: New research, telephone survey of 2018 and 2019 participants (100). Active Trade Ally Spillover Method: New research telephone survey of 2019 active trade allies (95 analyzed completes). Other HVAC Equipment: 2019 Savings weighted average of furnaces: AFUE >95 (90%) and AFUE 97+ (9%) furnaces, which together comprise 99% of program 2019 HVAC Equipment savings. Advanced thermostats. NTG=0.90: Evaluator recommendation for all non-income eligible programs.

	Home Energy Efficiency Rebate
2024-5	For Furnaces >95 AFUE, All Boilers, and Other HVAC Equipment NTG: 0.84 Free ridership: 0.29 For Furnaces 97+ AFUE NTG: 0.86 Free ridership: 0.27 For All Furnaces, Boilers, and Other HVAC Equipment: Participant Spillover: 0.00 Active Trade Ally Non-Participant Spillover: 0.02 Inactive Trade Ally Non-Participant Spillover: 0.11 (PG & NSG GPY2). Free Ridership Method. AFUE >95: New research online (274 analyzed completes) and telephone (57 analyzed completes) survey of 2019 participants. AFUE 97+: New research online (33 analyzed completes) and telephone (12 analyzed completes) survey of 2019 participants. New research telephone survey of 2019 active trade allies (82 analyzed completes). AFUE >95 weighted 47.5% Participants (0.35) and trade allies 52.5% (0.24). AFUE 97+ weighted 46.2% Participants (0.31) and trade allies 53.8% (0.24). Participant Spillover Method: New research, telephone survey of 2018 and 2019 participants (100). Active Trade Ally Spillover Method: New research telephone survey of 2019 active trade allies (95 analyzed completes). Other HVAC Equipment: 2019 Savings weighted average of furnaces: AFUE >95 (90%) and AFUE 97+ (9%) furnaces, which together comprise 99% of program 2019 HVAC Equipment savings. Advanced thermostats. NTG=0.95 for Online Marketplace; 0.89 for Other: SAG consensus: Apply NTG values for Adv Tstats from PGL/NSG HER and Online Marketplace values to HEER Adv Tstats according to delivery mechanism.