Memorandum

To: Erin Daughton, ComEd, Elizabeth Horne, ICC

CC: Jeff Erickson, Parini Shah, Nishant Mehta, Sagar Phalke, Guidehouse

From: Amy Buege, Elizabeth Bullard, Greg Vitz, Verdant Associates

Date: September 4, 2025

Re: ComEd Instant Discounts 2025 Net-to-Gross Research Results

1. Executive Summary

This memo presents findings from the net-to-gross (NTG) study of the ComEd Instant Discounts Program. The NTG results for this program are based on free ridership (FR) and participant and trade ally[1] spillover (SO) research gathered via web surveys with Instant Discounts Program lighting, heating, ventilation, and air conditioning (HVAC), lithium-ion fork truck, and high efficiency battery charger purchasers to assess the participant perspective. We also conducted web surveys with Instant Discounts Program lighting distributors and interviews with HVAC, forklift, and battery distributors to assess the trade ally perspective.

The NTG values were derived separately for the seven primary measures sold through the program: three lighting measures (LED bulbs, linear LEDs [TLEDs], and LED fixtures), one combined energy efficient HVAC measure (which included roof top units (RTUs), packaged terminal heat pumps (PTHPs), and packaged terminal air conditioners (PTACs)), one combined heat pump measure (which included air source heat pumps (ASHPs) and ductless mini-split heat pumps (DMSHPs)), lithium-ion fork trucks, and battery chargers (for use in fork trucks). These results will inform Guidehouse's September 2025 recommendations to the Illinois Stakeholder Advisory Group (SAG) of NTG values to be used for this program in CY2026.

Table 1 presents the Instant Discount Program FR and SO research findings based on the participant and trade ally research. These NTG ratios are blended values of the participant and trade ally NTG results for all measures except HVAC, heat pumps, and battery chargers. The evaluation team recommends utilizing the FR results from the trade ally interviews exclusively for HVAC and heat pump measures due to the poor relative precision estimates associated with the participant FR results. The evaluation team also recommends continuing to use the default NTG value of 0.80 for battery chargers due to a lack of statistically significant results from the NTG research completed this cycle with both battery charger participants and trade allies. ComEd has also recently added a VRF heat pump to the program which was not included in this research effort. Because this heap pump measure has a different incentive structure

[1] In this memo we use the term "trade ally" to refer to the distributors who help deliver the program. ComEd also refers to these distributors as Energy Efficiency Service Providers (EESP).

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and application than the ASHP and DMSHP measures studied, we recommend using the default NTG of 0.80 for the VRF heap pump measure until FR and SO research can be conducted.

Table 1. Net-to-Gross Research Results for Instant Discounts

Measure	Free Ridership	Participant Spillover	Trade Ally Spillover	NTG Ratio
LED Bulbs	0.31	0.03	0.04	0.76
Linear LEDs (TLEDs)	0.29	0.00	0.05	0.76
LED Fixtures	0.15	0.01	0.07	0.93
HVAC	0.38	0.00	0.00	0.62
Heat Pump*	0.27	0.00	0.01	0.74
Lithium-Ion Fork Trucks	0.26	0.00	0.00	0.74
Battery Chargers	N/A	N/A	N/A	0.80

Note: Numbers may not sum due to rounding.
** This NTG will not be applied to VRF heat pumps as they were not included in this research. They will receive a default NTG of 0.80 until research can be conducted on them.*
Source: Evaluation Team Analysis.

Table 2 below presents historical NTG estimates by program measure since CY2018. As this table shows, the NTG for LED bulbs and TLEDs decreased this year primarily due to an increase in FR and the NTG for LED fixtures has increased.

Table 2. Historical and Current Net-to-Gross Estimates for Instant Discounts

Measure	CY2026	CY2024/25	CY2022/23	CY2021	CY2019/20	CY2018
LED Bulbs	0.76	0.95	0.84	0.72	0.83	0.78
TLEDs	0.76	0.92	0.79	0.76	0.80	0.80
LED Fixtures	0.93	0.80	0.81	0.80	0.83	0.78
HVAC	0.62	0.80	0.80	N/A	N/A	N/A
Heat Pumps	0.74	0.80	0.80	N/A	N/A	N/A
Li-Ion Fork Trucks	0.74	0.80	N/A	N/A	N/A	N/A
Battery Chargers	0.80	0.80	0.80	0.80	0.80	0.80

Note: Numbers shaded in grey represent default values rather than research values.
Source: Historical ComEd-NTG-Recommendations workbooks and Evaluation Team Analysis.

2. Free Ridership and Spillover Research Representation

The evaluation team fielded interviews and web surveys with program participants and trade allies (lighting, HVAC, fork truck, and battery charger distributors). To maximize data collection response rates, ComEd emailed all sampled participants and trade allies prior to the interviews and surveys to alert them to the upcoming data collection activities and request their cooperation with the research. After the ComEd email was sent, all trade allies and participants included in the web survey population were sent a survey invitation from the evaluation team (via the Qualtrics survey platform) that contained a link to the web survey. Up to two reminders were emailed to web survey non-respondents to encourage them to complete the web surveys. For trade allies included in the interview population, emails were sent requesting each trade ally to take part in a short phone interview with a member of the evaluation team. These interviews used the same online form that was used for the web surveys but the interviewer filled in the responses

rather than the interviewees. For some measures where response rates to the web survey or email interview invitation were low additional direct phone outreach was conducted to increase the number of completed surveys or interviews. Measure specific survey delivery methods are described below:

- **Lighting Measures** – Web survey invitations were emailed to Instant Discounts lighting purchasers who bought program incentivized measures between January 1, 2024 and December 31, 2024 and lighting distributors who sold program LED bulbs, TLEDs and/or fixtures in CY2024. A census was attempted for both the participant and trade ally web surveys.
- **HVAC and Heat Pumps** – Web survey invitations were emailed to all Instant Discounts HVAC and heat pump purchasers who bought program incentivized measures between January 1, 2024 and March 31, 2025. Interview invitations were emailed to all HVAC and heat pump distributors who sold program equipment in CY2024. Due to low response numbers to the web survey and email interview invitations, direct outreach via phone was attempted with all HVAC and heat pump purchasers and distributors who had not responded. This resulted in an additional two distributor interviews completed and an additional eight purchaser web surveys completed over the phone with evaluation staff.
- **Lithium-Ion Fork Trucks and Battery Chargers –** Web survey invitations were emailed to all Instant Discounts fork truck and battery charger purchasers who bought program incentivized measures between January 1, 2024 and March 31, 2025. Interview invitations were emailed to all fork truck and battery distributors who sold program equipment in CY2024. Due to low response numbers to the web survey and email interview invitations, direct outreach via phone was attempted with fork truck distributors and purchasers who had not responded. This resulted in an additional three distributor interviews being completed.

Table 3 presents the research representation for the two survey types (participant and trade ally) by measure type. In the table below the "Survey Sample" column documents the number of surveys or interview requests emailed to program participants or trade allies and the "Delivered Surveys" column is the number of emails sent out that were delivered to the intended party. "Completed Surveys" includes all surveys completed and is used to calculate the survey response rate (RR, calculated as Completed Surveys/Delivered Surveys). Not all surveys were included within the NTG analysis and "Analyzed Completes" represents the number of completed surveys that were included in the NTG analysis[2] and "Share of Program Savings" is the sum of the savings for the analyzed completes over the total program savings for the analysis period from which the sample was selected.

[2] Completed surveys that were excluded from the analyzed surveys include respondents who do not recall purchasing the program measure and those who did not respond to the questions included in the NTG survey batteries.

Table 3. Free Ridership and Spillover Research Representation

Measure Type	Population	Sample	Delivered Surveys	Completed Interviews or Surveys	RR	Analyzed Interviews or Surveys	Share of Program Savings (kWh)
All Lighting Measures	Participant	4,233	3,617	115	7%	115	5%
	Trade Ally	80	76	49	64%	41	54%
HVAC	Participant	37		7	19%	7	15%
	Trade Ally	10		5	50%	5	30%
Heat Pump	Participant	22		3	14%	3	45%
	Trade Ally	8		5	63%	5	91%
Fork Trucks	Participant	72		6	8%	6	6%
	Trade Ally	9		6	67%	6	71%
Battery Chargers	Participant	30		1	3%	1	4%
	Trade Ally	5		3	60%	3	33%

Note: Because both email and phone outreach was used for HVAC, heat pump, fork truck and battery charger participants and distributors, the delivered surveys column is left blank.
Source: Evaluation Team Analysis.

3. Free Ridership and Spillover Protocols

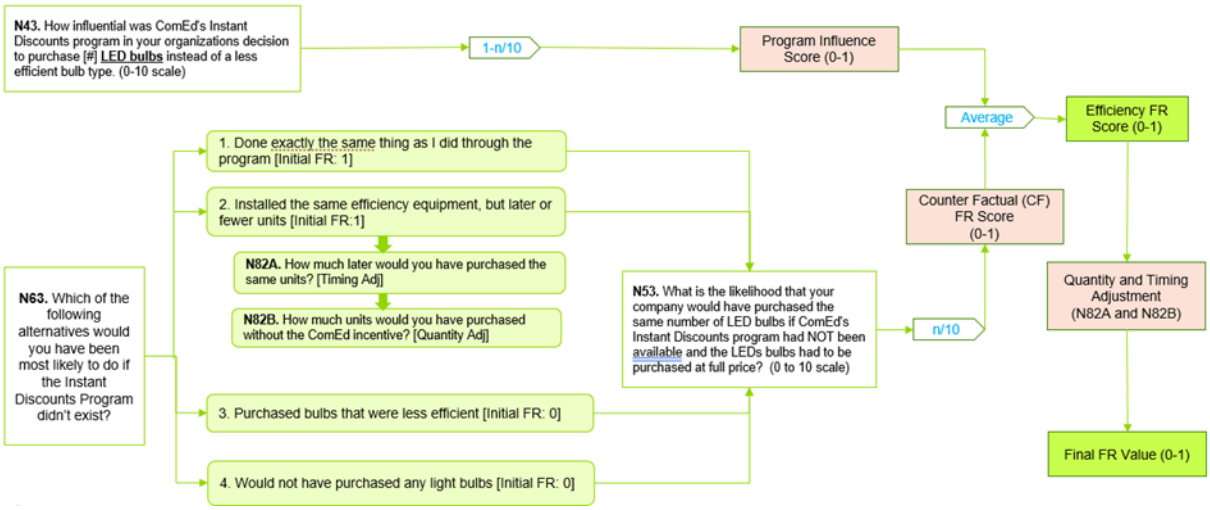
Below we present the FR and SO protocols that were used to estimate the NTG ratio for Instant Discounts measures.

3.1 Participant Free Ridership and Spillover Algorithms and Scoring

The algorithms used to estimate participant FR and SO for the Instant Discounts program are outlined in Figure 1 and Figure 2 below. The FR algorithm is a slight variation[3] from the Core Non-Residential FR algorithm included in the Illinois Technical Reference Manual (IL TRM) v13.

[3] The slight variation is that N53 is asked in a similar manner of all participants (regardless of how they responded to N63). Prior research has shown customer confusion with the way N53 was being asked as shown in the IL TRM v13.

Figure 1. Participant Free Ridership Algorithm

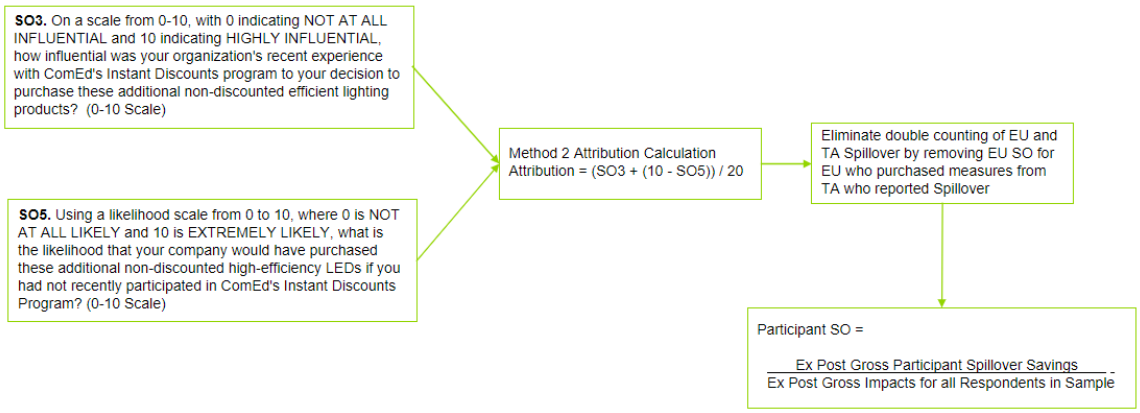


Source: Evaluation team representation of the Core Non-Residential FR algorithm included within the Illinois Statewide Technical Reference Manual for Energy Efficiency, Version 13.0, Volume 4: Cross-Cutting Measures and Attachments.

SO for the Instant Discount program was assessed using methods outlined in the IL TRM v13 and shown in Figure 2 below. In order for a purchase to be considered SO it must have met the following criteria:

1. Be a high efficiency measure,
2. Not rebated by ComEd, and
3. Purchase decision must have been strongly influenced by the Instant Discounts Program (Attribution score in figure below must be > 0.5)

Figure 2. Participant Spillover Algorithm



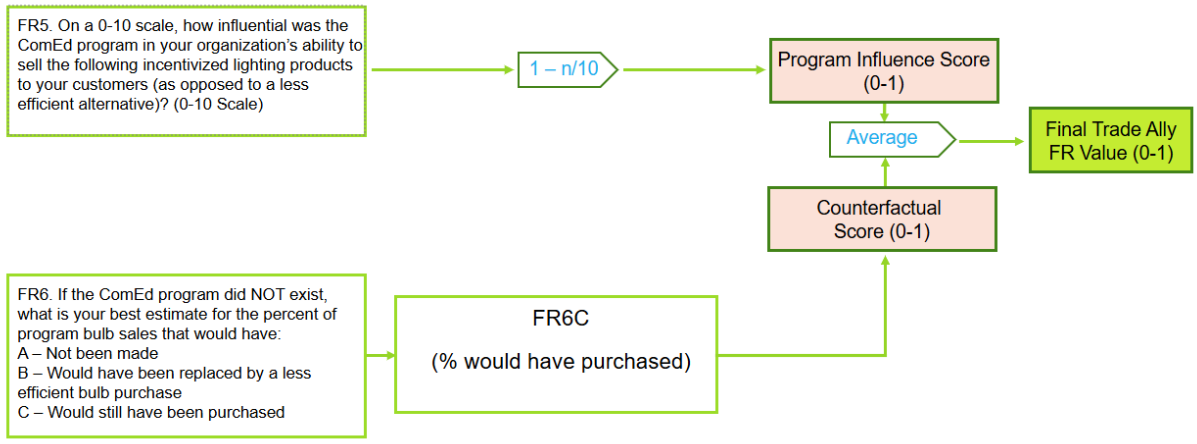
Source: Evaluation team representation of Illinois Statewide Technical Reference Manual for Energy Efficiency, Version 13.0, Volume 4: Cross-Cutting Measures and Attachments.

3.2 Distributor Free Ridership and Spillover Algorithms and Scoring

For the distributor survey, we estimated FR and SO using the approaches outlined in Attachment A (Illinois Statewide Net-to-Gross Methodologies) Section 5.4 (Midstream Free-Ridership Protocol) of the IL TRM v13. Figure 3 and Source: Evaluation team representation of Illinois Statewide Technical Reference Manual for Energy Efficiency, Version 13.0, Volume 4: Cross-Cutting Measures and Attachments, Section 5.4 (Midstream Free-Ridership Protocol)

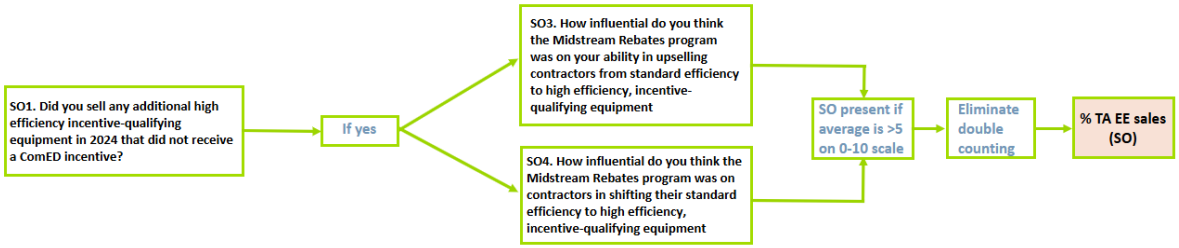
Figure *4* below provide the Distributor FR and SO algorithms and scoring, respectively.

Figure 3. Distributor Free Ridership Algorithm



Source: Evaluation team representation of Illinois Statewide Technical Reference Manual for Energy Efficiency, Version 13.0, Volume 4: Cross-Cutting Measures and Attachments, Section 5.4 (Midstream Free-Ridership Protocol)

Figure 4. Distributor Spillover Algorithm



Source: Guidehouse diagram of Trade Ally Spillover Research from IL TRM v 13.0

4. Participant and Trade Ally Free Ridership Results

Using the protocols detailed above and data collected during the participant and trade ally surveys, the evaluation calculated FR estimates for each of the program measures researched. Table 4 below presents the measure-level FR estimates and the relative precision of the estimates for the two populations. As this table shows, participant-based FR estimates ranged widely across measures from a low of 0.04 for lithium-ion fork trucks to a high of 1.0 for battery chargers. Trade ally FR estimates were generally more consistent

across measures, ranging from a low of 0.20 to a high of 0.42. The spread between participant and trade ally FR estimates was less than 0.15 for all lighting measures but were more varied for HVAC, heat pump and fork truck measures.

The evaluation team decided to exclude any FR estimates with a relative precision greater than 0.30 from the analysis to produce the final NTG recommendations. This resulted in the exclusion of participant FR results for HVAC and heat pump measures and thus the resulting FR estimate used to calculate the NTG for these measures is based exclusively on the trade ally FR results. Additionally, for battery chargers it led to the exclusion of both the participant and trade ally FR results and thus the evaluation team recommends continuing to use the default NTG value of 0.80 until further research can be conducted. All of the FR results that have been excluded from the CY2026 FR recommendations are shaded in grey in the table below.

Table 4. Participant and Trade Ally Free Ridership Results

Measure	Survey Type	Free Ridership	Relative Precision @ 90% CI
LED Bulbs	Participant	0.30	0.14
	Trade Ally	0.31	0.09
TLEDS	Participant	0.36	0.09
	Trade Ally	0.27	0.06
LED Fixtures	Participant	0.05	0.05
	Trade Ally	0.20	0.06
HVAC	Participant	0.56	0.59
	Trade Ally	0.38	0.21
Heat Pumps	Participant	0.70	1.36
	Trade Ally	0.27	0.17
Li-Ion Fork Trucks	Participant	0.04	0.11
	Trade Ally	0.40	0.26
Battery Chargers	Participant	1.0	N/A
	Trade Ally	0.42	0.94

Note: Results shaded in grey are not used within the final FR recommendations for CY2026.
Source: Evaluation Team Analysis.

4.1 Combining Participant and Trade Ally Free Ridership Results

The evaluation team calculated a combined participant and trade ally FR estimate utilizing the triangulation approach outlined in IL TRM v13.0 (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." Each score is informed by the underlying survey data and is rooted in quantifiable metrics that align with the three evaluation criteria.

1. **Accuracy**: How likely is the approach to provide an accurate estimate of FR?
    a. For each measure, an accuracy score is calculated based on a comparison of relative precision (RP) values from the FR estimates. The calculation is displayed below.

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

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 complete survey responses for the measure relative to the total population. The equation is displayed below.

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

    b. The qualitative score reflects the nature of the surveys. Participant surveys ask project-specific questions and, thus, are likely to have lower recall bias, earning a higher qualitative score of 60%. Trade ally interviews cover multiple projects over the year and were assigned a qualitative score of 40%.
    c. The quantity and qualitative scores for validity are averaged to get an overall Validity score for each measure.

3. **Representativeness**: How representative is the sample?
    a. For each measure representativeness is calculated as the percent of savings represented by the participant or trade ally compared with the total population. The formula is displayed below.

$$Normalized\ \%\ Weight = \frac{\%\ Savings\ for\ Participant\ or\ TradeAlly}{(\%Savings_{Participant} + \%Savings_{TradeAlly})}$$

Table 5 through Table 8 below provide the weights resulting from the FR triangulation for the four measures (all three lighting measures and lithium-ion fork trucks) where participant and trade ally results will be combined to come up with a blended FR result.

Table 5. Free Ridership Triangulation Weighting Approach for Instant Discounts: LED Bulbs

Free Ridership Triangulation Data and Analysis	Participant	Trade Ally
How likely is this approach to provide an accurate estimate of free ridership?	36%	64%
How valid is the data collected/analysis?	31%	69%
How representative is the sample?	2%	98%
Average Score	23%	77%
Sum of Averages	100%	
Weight	23%	77%

Source: Evaluation Team Analysis.

Table 6. Free Ridership Triangulation Weighting Approach for Instant Discounts: TLEDs

Free Ridership Triangulation Data and Analysis	Participant	Trade Ally
How likely is this approach to provide an accurate estimate of free ridership?	37%	63%
How valid is the data collected/analysis?	31%	69%
How representative is the sample?	4%	96%
Average Score	24%	76%
Sum of Averages	100%	
Weight	24%	76%

Source: Evaluation Team Analysis.

Table 7. Free Ridership Triangulation Weighting Approach for Instant Discounts: LED Fixtures

Free Ridership Triangulation Data and Analysis	Participant	Trade Ally
How likely is this approach to provide an accurate estimate of free ridership?	47%	53%
How valid is the data collected/analysis?	31%	69%
How representative is the sample?	10%	90%
Average Score	29%	71%
Sum of Averages	100%	
Weight	29%	71%

Source: Evaluation Team Analysis.

Table 8. Free Ridership Triangulation Weighting Approach for Instant Discounts: Li-Ion Fork Trucks

Free Ridership Triangulation Data and Analysis	Participant	Trade Ally
How likely is this approach to provide an accurate estimate of free ridership?	71%	29%
How valid is the data collected/analysis?	36%	64%
How representative is the sample?	7%	93%
Average Score	38%	62%
Sum of Averages	100%	
Weight	38%	62%

Source: Evaluation Team Analysis.

Applying the participant and trade ally weights to the FR estimates for the lighting and lithium-ion fork truck measures yields the blended FR estimates shown in Table 9 below.

Table 9. Blended Free Ridership Results

Measure	Participant FR	Participant Weight	Trade Ally FR	Trade Ally Weight	Blended FR
LED Bulbs	0.28	0.23	0.31	0.77	0.31
TLEDS	0.36	0.24	0.27	0.76	0.29
LED Fixtures	0.05	0.29	0.20	0.71	0.16
Li-Ion Fork Trucks	0.04	0.38	0.40	0.62	0.26

Note: Numbers may not sum due to rounding.
Source: Evaluation Team Analysis.

5. Participant and Trade Ally Spillover Results

SO was calculated based on the data collected from participants (via the purchaser web surveys) and trade allies (via the distributor web surveys and phone interviews). To ensure that SO from these two sources were not double counted, the evaluation team excluded any reported SO transactions from participants who purchased their ComEd rebated measures from an Instant Discounts distributor who also reported SO.

Of participant survey measures examined, SO was only reported for two of the three lighting measures. Within lighting measures, seven participants out of the 115 surveys analyzed indicated SO, and of those three participant responses passed the SO criteria and were kept after removal of double counted distributor spillover savings. The estimated gross energy savings from these non-rebated SO measures is broken out by LED measure type in the table below. For distributors, SO was also reported for all lighting measures, and there was additional SO reported for heat pumps.

Table 10 presents the participant and trade ally SO results, as well as the total SO calculated (additive) that is being applied to all research measures to estimate the NTG ratio.

Table 10. Participant Spillover Research Results

Measure	Participant Spillover	Trade Ally Spillover	Total Additive Spillover
LED Bulbs	0.03	0.04	0.07
Linear LEDs (TLEDs)	0.00	0.05	0.05
LED Fixtures	0.01	0.07	0.08
HVAC	0.00	0.00	0.00
Heat Pump	0.00	0.01	0.01
Lithium-Ion Fork Trucks	0.00	0.00	0.00
Battery Chargers	0.00	0.00	0.00

Source: Evaluation Team Analysis.

The evaluation team believes non-participant SO is captured in the participant SO results presented above (resulting from the distributor surveys). The Instant Discounts Program distributors include the majority of lighting distributors in the ComEd service territory. Thus, the estimate of SO sales (non-incentivized high efficiency bulb sales that were influenced by the Instant Discounts Program) that these distributors provided encompassed bulbs sold to both participating and non-participating customers.

6. Final NTG Results and Recommendations

Table 11 summarizes Guidehouse's draft recommendations for the Instant Discounts Program to be used in CY2026 based on the research presented in this memo. The evaluation team recommends continuing to use the default FR value of 0.80 for battery chargers due to a lack of statistically significant results from the NTG research completed this cycle with participants and trade allies.

Table 11. Net-to-Gross Research Results for Instant Discounts

Measure	Free Ridership	Participant Spillover	Trade Ally Spillover	NTG Ratio
LED Bulbs	0.31	0.03	0.04	0.76
Linear LEDs (TLEDs)	0.29	0.00	0.05	0.76
LED Fixtures	0.15	0.01	0.07	0.93
HVAC	0.38	0.00	0.00	0.62
Heat Pump*	0.27	0.00	0.01	0.74
Lithium-Ion Fork Trucks	0.26	0.00	0.00	0.74
Battery Chargers	N/A	N/A	N/A	0.80

Note: Numbers may not sum due to rounding.
** This NTG will not be applied to VRF heat pumps as they were not included in this research. They will receive a default NTG of 0.80 until research can be conducted on them.*

Source: Evaluation Team Analysis.

7. Instant Discounts NTG History Lighting

Program Year	NTG History
PY1	NA No Program
PY2	NA No Program
PY3	NA Pilot Program – no data collection
PY4	**Retroactive application of NTG of 0.63** Free Ridership 0.39 Spillover 0.02 Method: Customer self-report. Fifty-one surveys completed from a population of about 5,000 (contact information available for only a small subset of participants). Eleven trade ally surveys were also conducted, resulting in an NTG of 0.56, but this result was not factored into the customer FR calculation.
PY5	Illinois SAG Consensus: **Lighting: 0.74**
PY6	Illinois SAG Consensus: **Lighting: 0.63**

Program Year	NTG History
PY7	**NTG CFL: 0.64** (EPY4 and EPY5 weighted average. EPY5 CFL NTG is 0.66.) **NTG LED/HID: 0.70** **NTG Linear FL: 0.56** **NTG Other: 0.67** **Free Ridership:** CFLs 0.41; LEDs 0.38; Linear Fluorescents 0.47; Other 0.40. **Participant Spillover:** CFLs 0.07; LEDs 0.08; Linear Fluorescents 0.03; Other 0.07. **Nonparticipant Spillover:** Negligible. There are very few midstream lighting programs offered around the country and no research has been conducted on nonparticipant spillover for such a program. Given how this program is administered, it is likely that nonparticipant spillover would be very small. Source: PY5 participant and distributor self-report surveys. Notes: In PY5, Midstream Incentive Lighting was renamed BILD.
PY8	**Recommendation (based upon PY6 research):** **NTG CFL: 0.68**, Free Ridership: 0.39, Spillover: 0.07 **NTG LED/HID: 0.77**, Free Ridership: 0.30, Spillover: 0.07 **NTG Linear FL: 0.61**, Free Ridership: 0.45, Spillover: 0.07 **NTG Other: 0.67**, Free Ridership: 0.40, Spillover: 0.07 **NTG Research Sources:** 1. Customer self-report approach based on the end-user telephone surveys of 282 participants and in-depth interviews with nine BILD end-user participants. 2. Supplier self-reports based on in-depth interviews with program lighting distributors.
PY9	**NTG CFL:** 0.64, Free Ridership: 0.46, Spillover: 0.10 **NTG LED:** 0.78, Free Ridership: 0.32, Spillover: 0.10 **NTG Linear FL:** 0.75, Free Ridership: 0.35, Spillover: 0.10 **NTG Other:** 0.78, Free Ridership: 0.32, Spillover: 0.10 **NTG Research Sources:** PY7 Research – Free Ridership and Spillover: Customer self-report research via telephone and web surveys, plus web surveys sent to all participating distributors. Note: Recommended values are PY7 researched values (not 3-year averages).
CY2018	**NTG LED Lamps and Fixtures:** 0.78, Free Ridership: 0.32, Spillover: 0.10 **NTG Linear FL:** 0.75, Free Ridership: 0.35, Spillover: 0.10 **LED Exit Signs, Linear LED, Battery Chargers, and all "Other":** NTG of the default value of 0.80 until research can be done. **NTG Research Sources:** For LED Lamps and Fixtures and for Linear FL: PY7 Research – Free Ridership and Spillover: Customer self-report research via telephone and web surveys, plus web surveys sent to all participating distributors.
CY2019/ CY2020	**NTG LED Lamps and Fixtures:** 0.83, Free Ridership: 0.31, Spillover: 0.14 **NTG Linear FL:** 0.67, Free Ridership: 0:47, Spillover: 0.14 **LED Exit Signs, Linear LED, Battery Chargers, and all "Other":** NTG of the default value of 0.80 until research can be done. **NTG Research Sources:** For LED Lamps and Fixtures and for Linear FL: PY9 Research – Free Ridership and Spillover: Customer self-report research via purchaser surveys and participating distributor surveys.

Program Year	NTG History
	NTG LED Lamps: 0.72, Free Ridership: 0.43, Spillover: 0.15 **NTG Linear FL:** 0.67, Free Ridership: 0:48, Spillover: 0.15 **NTG Linear LED:** 0.76, Free Ridership: 0:39, Spillover: 0.15
CY2021	**LED Fixtures, Exit Signs, Battery Chargers, and all "Other":** NTG of the default value of 0.80 until research can be done. **NTG Research Sources:** For LED Lamps, Linear LEDs, and Linear FL: CY2019 Research – Free Ridership and Spillover: Customer self-report research via purchaser surveys.
	NTG LED Lamps: 0.84, Free Ridership: 0.30, Spillover: 0.14 **NTG Linear FL:** 0.67, Free Ridership: 0:48, Spillover: 0.15 **NTG Linear LED:** 0.79, Free Ridership: 0:35, Spillover: 0.14 **NTG LED Fixtures:** 0.81, Free Ridership: 0:33, Spillover: 0.14
CY2022/ CY2023	**Exit Signs, Battery Chargers, and all "Other":** NTG of the default value of 0.80 until research can be done. **NTG Research Sources:** For Linear FL: CY2019 Research – Free Ridership and Spillover: Customer self-report research via purchaser surveys. For LED Lamps, Linear LEDs, and LED Fixtures: CY2020/CY2021 Research – Free Ridership and Spillover: Customer self-report research via purchaser surveys and CY2020 Distributor surveys.
	NTG LED Lamps: 0.95, Free Ridership: 0.25, Spillover: 0.19 **NTG Linear LED:** 0.92, Free Ridership: 0:28, Spillover: 0.19 **NTG LED Fixtures:** 0.80, Free Ridership: 0:40, Spillover: 0.19
CY2024/ CY2025	**Exit Signs, Battery Chargers, and all "Other":** NTG of the default value of 0.80 until research can be done. **NTG Research Sources:** For LED Lamps, Linear LEDs, and LED Fixtures: CY2022/CY2023 Research – Free Ridership and Spillover: Customer self-report research via purchaser surveys and CY2022 Distributor surveys.
	NTG LED Lamps: 0.76, Free Ridership: 0.31, Spillover: 0.07 **NTG Linear LED:** 0.76, Free Ridership: 0:29, Spillover: 0.05 **NTG LED Fixtures:** 0.93, Free Ridership: 0:15, Spillover: 0.08 **Li-Ion Fork Trucks:** 0.74, Free Ridership: 0:26, Spillover: 0 **HVAC:** 0.62, Free Ridership: 0.38, Spillover: 0 **Heat Pumps:** 0.74, Free Ridership: 0:27, Spillover: 0.01
CY2026	**Battery Chargers:** NTG of the default value of 0.80 until further research can be done. Analysis completed with CY2024 purchasers and distributors did not produce statistically significant results. **Exit Signs and all "Other":** NTG of the default value of 0.80 until research can be done. **NTG Research Sources:** For LED Lamps, Linear LEDs, and LED Fixtures, Li-Ion Fork Trucks, and HVAC measures: CY2024/CY2025 Research – Free Ridership and Spillover: Customer self-report research via purchaser surveys and CY2024 Distributor surveys.

Source: https://www.ilsag.info/wp-content/uploads/ComEd-NTG-CY2025-Recommendations-Final-2024-09-25.xlsx and current research