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| To: | Erin Daughton, ComEd |
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| CC: | Jennifer Morris, ICC Staff; Jeff Erickson, Rob Neumann, Laura Agapay-Read, Guidehouse |
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| From: | Cherlyn Seruto, Wayne Leonard, Guidehouse |
|  |  |
| Date: | July 16, 2021 |
|  |  |
| Re: | Net-to-Gross Research Results for the ComEd Standard Program – EESP Spillover Update |

# Executive Summary

This memo presents the findings of spillover research conducted with energy efficiency service providers (EESPs) participating in the ComEd Standard Program. The spillover calculations rely on the applicable algorithm specified in the Illinois Technical Reference Manual version 9.0 (TRM v9.0) and use the self-report approach for estimating the active service provider perspective of program spillover.

The findings are based on telephone surveys with EESPs who completed program-incented projects in 2020. These findings reflect the results of 77 completed surveys from a census population of 496 unique service provider companies. These results will inform Guidehouse’s September 2021 recommendations to the Stakeholder Advisory Group (SAG) of net-to-gross (NTG) values to be used for this program in CY2022.

Table 4 summarizes the Standard program spillover research findings. The active[[1]](#footnote-2) EESP spillover research conducted in 2021 with EESPs who participated in 2020 found a spillover rate of 21%.

Table 1. EESP Spillover Research Findings

|  |  |
| --- | --- |
| EESP Spillover | Spillover Rate |
| Participating EESP Spillover | 0.21 |

Source: EESP values from Guidehouse research

Of the 77 responding service providers, 29 indicated potential spillover, and 22 of the 29 provided adequate information to estimate spillover savings.

# EESP Spillover Survey Disposition

Guidehouse contracted with Blackstone Group to conduct telephone interviews with documented program contacts from each EESP firm as provided in the ComEd Standard program participation database. Blackstone achieved 77 completed surveys out of 460 contacted records for a 17% response rate. The evaluation team removed one response from the analysis[[2]](#footnote-3).

Table 2. EESP Spillover Survey Disposition

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Measure | EESP Population | Sample | Contacted EESPs† | Target Completes | Total Completes | Analyzed Completes\* | Response Rate | Share of Program Savings Represented by Analyzed Completes |
| Overall Program | 496 | Census | 460 | 20 | 77 | 76 | 17% | 17% |

† Although the survey sample was a census, the survey team exceeded the target number of completes which resulted in 36 EESPs in the population that did not need to be contacted.

Source: Guidehouse research

# EESP Spillover Protocols

The evaluation team applied the relevant active trade ally spillover estimation (trade ally is synonymous with EESP) spillover protocol from the Illinois TRM v9.0:

* *Trade ally perspective: Section 5 Cross-Sector Protocols*

## Active Trade Ally Spillover Estimation

Guidehouse estimated spillover that occurs among active EESPs according to the TRM v9.0. The evaluation team assessed active trade ally spillover by estimating the increase in sales of high efficiency products or services that are not rebated. The logic of the spillover estimate is shown in Figure 1.

Figure . Trade Ally Spillover Protocol



Source: Guidehouse illustration of Illinois TRM v9.0

The process to calculate trade ally spillover contains multiple steps (as defined in the TRM v9.0):

1. Calculate the percentage of an individual trade ally’s high efficiency equipment sales that received an incentive.

$= \frac{\% of Total Sales that are HE,   received incentive}{(\% of Total Sales that are HE, received incentive + HE \% that did NOT receive incentive)}$

1. Calculate the energy savings of the high efficiency equipment sales that did not receive an incentive.

$= \frac{\sum\_{}^{}TA savings from Program Database}{1) \% of TA^{'}s HE Sales that received an incentive}-\sum\_{}^{}TA savings from Program Database\*Size Adjustment$

1. Develop the spillover ratio for sampled trade allies by summing individual trade ally spillover savings and dividing that total by the program-tracked savings achieved by the sampled trade allies.
2. Develop spillover savings for the population of active trade allies by applying the spillover ratio from step 3 to all program savings associated with active trade allies.
3. Develop the overall spillover ratio for active trade allies by dividing the trade ally spillover estimate from step 4 by total program savings.

$$= \frac{4) Total TA tracked program savings\*3)\frac{2) \sum\_{1}^{n}TA reported spillover savings}{\sum\_{1}^{n}TA sample tracked program savings }}{5) Total Program Savings}$$

# Spillover Analysis Results

Of the 76 analyzed survey respondents, 18 reported that high efficiency product sales increased since they joined the program and that they sold high efficiency items without the incentive. Of these, 14 reported strong program influence (scoring >5 out of 10 for the average of the program’s influence on these two factors). Twelve of the 14 responded with the size of non-incentivized projects as compared to incentivized projects. The evaluation team was able to document the spillover savings as given by these twelve respondents.

Figure : Qualified EESP Respondent Spillover Screening Results

Of the 12 EESPs that reported quantifiable spillover values, five reported their non-rebated projects are typically smaller than rebated projects (by about half on average), 6 reported their non-rebated projects are typically of a similar size as rebated projects, and 1 reported their non-rebated projects are typically larger (by 10%).

Table 3. Values Used in EESP Spillover Calculation

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  Total Program Savings (Responding EESPs, kWh) | Spillover Savings (Responding EESPs, kWh) | Step 3: Spillover Ratio (Responding EESPs) | Total Program Savings Associated with EESPs\* (kWh) | Step 4: Spillover Savings, Active EESPs | Total Program Savings | Step 5: Overall Spillover Ratio, Active EESPs |
| 50,132,727 | 10,720,423 | 21.4% | 291,507,999 | 62,336,304 | 303,923,398 | 20.5% |

\*Total program savings subtracted by records from the program database that were designated either as self-installed or had a N/A value for EESP.

# Final Program-Level NTG Results and Recommendations

Table 4 summarizes Guidehouse’s draft recommendations for the ComEd Standard Program to be used in CY2022. Because the participant spillover research from the prior year found zero participant spillover, there is no potential for double counting. Therefore, the 2020 researched EESP spillover value of 0.21 is added to the existing NTG variables in the equation of 1-FR+SO.

Table 4. Draft NTG Values for the Standard Program

| Category | Participant Free Ridership | Participant Spillover | Active EESP Spillover\* | NTG Ratio |
| --- | --- | --- | --- | --- |
|  **Private** |  |  |  |  |
|  Lighting | 0.21 | <0.01 | 0.21 | 1.00 |
|  Non-Lighting | 0.32 | <0.01 | 0.21 | 0.89 |
|  **Public** |  |  |  |  |
|  Lighting | 0.29 | 0.00 | 0.21 | 0.92 |
|  Non-Lighting | 0.22 | 0.00 | 0.21 | 0.99 |
| **Combined Lighting** | **0.22** | **<0.01** | **0.21** | **0.99** |
| **Combined Non-Lighting** | **0.32** | **<0.01** | **0.21** | **0.89** |

\* Active Trade Allies (e.g. Energy Efficiency Service Providers, or EESPs)\_are defined in the IL TRM v9.0 as: Trade allies who were active in the program during the evaluation period and appear in program tracking databases. The tracking data contains information on the quantity of incented measures associated with these trade allies and their savings.

Source: Participant values from Guidehouse CY2018/2019 research reported in 2020. EESP values from Guidehouse the current research.

##### Detailed NTG Results

The twelve EESPs with documented spillover provided open ended responses to the question: “Why do you think that some customers with eligible projects would not apply for rebates?” The table below lists their unedited responses:

|  |
| --- |
| Verbatim Responses |
| There are other programs with other incentives with higher rebates. |
| I feel they would often apply if more was available from the program in regards to the funds. Last year there was only $200,000, a modest amount for us to utilize. And before we had people sign on the dotted line we had to make sure their money was there. |
| Sometimes it's not worth the time. |
| Timing and schedule. (exp) Some customers have a timeframe that they do not have to take the time to apply for the rebate and they didn't know that we had applied for them beforehand. The rebates are a new division in our company. |
| Typically, it would be a timeline issue, that they have to move forward with the project rather than wait for the incentive approval. The approval process with ComEd doesn't take that long but some customers have to go ahead with their project much sooner. |
| If the rebate is not significant, and if they do not want to wait for the approval process to take place. |
| They don't know about it or they don't know how to do it. As long as we are involved, we would apply for them. |
| They think it's too much paper work and don’t understand it. |
| For example, right now I'm waiting for an attorney representing the firm to sign a darn piece of paper. Although the rebate is thousands of dollars the project is hundreds of thousands so it's a percentage. But we can't make everyone comply and they don't |
| If they're eligible we help them to submit the rebate paperwork to get the rebate. |
| With the rebates customers said it's too much of an expense. |
| I think some just don’t want to take the process  time, and some don't believe it to be true. |

##### Standard Program NTG History

Update table below for your specific program. The word document with NTG history for ComEd programs is located here: <https://www.ilsag.info/evaluator-ntg-recommendations-for-2021/>.

|  | **Business Standard Incentive** |
| --- | --- |
| **PY1** | **NTG 0.67****Free Ridership 33**%**Participant Spillover** 0% (qualitative evidence observed, not quantified)**Method**: Customer self-report. 95 interviews completed covering 101 projects from a population of 455 projects. |
| **PY2** | **NTG 0.74****Free Ridership 27**%**Participant Spillover** 1%**Method**: Customer self-report. 90 interviews completed covering 114 projects from a population of 1,739 projects.Enhanced method. Ten trade allies called for 11 participants and their responses factored in to the customer free ridership calculation. |
| **PY3** | **NTG 0.72****Free Ridership 28**%**Participant Spillover** 0% (qualitative evidence observed, not quantified)**Method**: Customer self-report. 108 interviews completed covering 292 projects from a population of 3,794 projects.Enhanced method. Two trade allies and three account managers were called for five participants and their responses factored in to the customer free ridership calculation. |
| **PY4** | **Deemed using PY2 values.****PY4 Research NTG 0.70****Free Ridership 31**%**Participant Spillover** 1%**Method**: Customer self-report. 110 interviews completed covering 166 projects from a population of 4,603 projects.Enhanced method. Two trade allies called for two participants and their responses factored in to the customer free ridership calculation.NTGR (Free Ridership only): All lighting =0.70 (90/±5%); Lighting, no T12s reported in base case 0.66 (90/±9%); Lighting, T12s reported in base case 0.80 (90/±14%) Non-Lighting = 0.63 (90/±16%). |
| **PY5** | SAG Consensus:* Lighting: 0.74
* Non-Lighting: 0.62
 |
| **PY6** | SAG Consensus:* Lighting: 0.70
* Non-Lighting: 0.63
 |
| **PY7** | **Lighting****NTG: 0.81**Free Ridership: Measured and equal to 0.26Justification: EPY5 ComEd Standard Program research, 63 participantsTotal Recommended Spillover = 0.07Participant and Non-Participant Spillover Identified by Participating Standard Program Trade Allies: Measured and equal to 0.05Justification: EPY5 ComEd Standard Program research, participating trade ally sample 55Participant and Non-Participant Spillover Identified by Non-Participating Standard Program Trade Allies: Not measured for ComEd; a value of 0.02 is recommendedJustification: Based on GPY2 results from Nicor Gas (0.02), and Peoples Gas and North Shore Gas (0.02).**Non-Lighting****NTG: 0.77**Free Ridership: Measured and equal to 0.31Justification: EPY5 ComEd Standard Program research, 64 participantsTotal Recommended Spillover = 0.08Participant and Non-Participant Spillover Identified by Participating Standard Program Trade Allies: Measured and equal to 0.06Justification: EPY5 ComEd Standard Program research, participating trade ally sample 10.Participant and Non-Participant Spillover Identified by Non-Participating Standard Program Trade Allies: Not measured for ComEd; a value of 0.02 is recommendedJustification: Based on GPY2 results from Nicor Gas (0.02), and Peoples Gas and North Shore Gas (0.02).  |
| **PY8** | **Recommendation (based upon PY6 research):** **NTG Lighting: 0.74** **NTG Non-Lighting: 0.63** **Free Ridership, Lighting: 0.27****Free Ridership, Non-Lighting: 0.38****SO: 0.01** Free Ridership was estimated in PY6 as 0.27 for lighting Free Ridership = 0.38 for non-lightingBoth based on customer self-report data collected through phone interviews (n=59).In PY6, trade allies and business customers were interviewed in a separate study to estimate spillover broadly across the commercial and industrial (C&I) market. The results of the cross-cutting C&I spillover study will be reported separately. |
| **PY9** | **Recommendation (based upon PY7 research):** **NTG Lighting: 0.70****NTG Non-Lighting: 0.69** **Free Ridership, Lighting: 0.31****Free Ridership, Non-Lighting: 0.32****Spillover, Lighting: 0.01** **Spillover, Non-Lighting: 0.01** NTG Research Source:FR = PY7 Participant Customers and Trade Allies SO = PY6 C&I NTG study |
| **CY2018** | **Recommendation (based upon PY7 and PY8 research):** **NTG Lighting: 0.71****NTG Non-Lighting: 0.70** **Free Ridership, Lighting: 0.31****Free Ridership, Non-Lighting: 0.32****Spillover, Lighting: 0.02** **Spillover, Non-Lighting: 0.02** NTG Research Source:FR = PY7 Participant Customers and Trade Allies SO = PY8 TA and Contractor Self-Report |
| **CY2019** | **Recommendation (based upon PY9 research):** **NTG Lighting: 0.83****NTG Non-Lighting: 0.78** **Free Ridership, Lighting: 0.19****Free Ridership, Non-Lighting: 0.24****Spillover, Lighting: 0.02** **Spillover, Non-Lighting: 0.02** NTG Research Source:FR = PY9 Participating Customer Surveys SO = PY9 Participating Customer Surveys |
| **CY2020** | **Recommendation (based upon PY9 research):** **NTG Lighting: 0.83****NTG Non-Lighting: 0.78** **Free Ridership, Lighting: 0.19****Free Ridership, Non-Lighting: 0.24****Spillover, Lighting: 0.02** **Spillover, Non-Lighting: 0.02** NTG Research Source:FR = PY9 Participating Customer Surveys SO = PY9 Participating Customer Surveys |
| **CY2021** | **NTG Lighting: 0.80****NTG Non-Lighting: 0.70****NTG Thermostats: 0.86** **Free-Ridership, Lighting: 0.22****Free-Ridership, Non-Lighting: 0.32****Participant Spillover, Lighting: <0.01****Participant Spillover, Non-Lighting: <0.01****Nonparticipant Spillover, Lighting: 0.02****Nonparticipant Spillover, Non-Lighting: 0.02****Thermostat TRM savings is between net and gross so thermostat NTG defined as:****1 – (free ridership \* 0.5) + nonparticipant spillover****(Using the non-lighting free ridership)**NTG Research Source:FR = CY2019 Participating Customer Surveys Participant SO = CY2019 Participating Customer SurveysNonparticipant spillover: PY8 TA and Contractor Self-Report |

Source: https://ilsag.s3.amazonaws.com/ComEd-NTG-History-and-CY2021-Recs-2020-09-30-Final.pdf

1. Active Trade Allies (e.g. Energy Efficiency Service Providers, or EESPs)\_are defined in the IL TRM v9.0 as: Trade allies who were active in the program during the evaluation period and appear in program tracking databases. The tracking data contains information on the quantity of incented measures associated with these trade allies and their savings; [↑](#footnote-ref-2)
2. For this one respondent, it was clear to evaluators, when comparing the results of the quantity and scored questions to the open ended questions, that the respondent mis-interpreted the questions and was reporting percentages for all projects regardless of efficiency, not just the high efficiency projects that would qualify for spillover. [↑](#footnote-ref-3)