ComEd Programs NTG Approach for EPY8

DRAFT

Table of Contents

| В | usiness Programs | 2 |
|---|--|----|
| | Business Standard Incentive | 2 |
| | Business Custom | 4 |
| | Data Centers | 5 |
| | Industrial Systems (Compressed Air in EPY4) | 6 |
| | Retro-Commissioning (Joint) | 7 |
| | Business New Construction Service (Joint) | 8 |
| | BILD and MidStream Incentives | 10 |
| | Small Business Energy Savings (Joint) | 11 |
| R | esidential Programs | 12 |
| | Residential Lighting – Smart Lighting Discounts | 12 |
| | Fridge Freezer Recycling Rewards | 15 |
| | Multi-Family Comprehensive (Joint) | 16 |
| | Home Energy Savings (Single Family Retrofit) (Joint) | 18 |
| | Complete System Replacement (HEER) (Joint) | 21 |
| | Residential New Construction (Joint) | 22 |
| | Elementary Energy Education (Joint) | 23 |
| I | PA and Third-Party Programs | 24 |
| | Regression Based EM&V Analysis – No NTG Value | 24 |
| | Third-Party Programs | 24 |
| | IPA Programs | 24 |
| | Pilot Programs for PY8: | 25 |

Business Programs

| | Pusiness Standard Incentive |
|-------|---|
| | Business Standard Incentive |
| EPY1 | 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. |
| EPY2 | 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. |
| EPY3 | 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. |
| EPY4 | 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 |
| EDV/F | $0.66 (90/\pm 9\%)$; Lighting, T12s reported in base case $0.80 (90/\pm 14\%)$ Non-Lighting = $0.63 (90/\pm 16\%)$. |
| EPY5 | SAG Consensus: |
| | • Lighting: 0.74 |
| EDV | Non-Lighting: 0.62 |
| EPY6 | SAG Consensus: |
| | • Lighting: 0.70 |
| EDV/7 | Non-Lighting: 0.63 Lighting: 0.63 |
| EPY7 | Lighting NTC: 0.81 |
| | NTG: 0.81 |
| | Free Ridership: Measured and equal to 0.26 |
| | Justification: EPY5 ComEd Standard Program research, 63 participants |
| | , as a second of the contract of the contract of participants |
| | Total Recommended Spillover = 0.07 |

Business Standard Incentive

Participant and Non-Participant Spillover Identified by Participating Standard Program Trade Allies: Measured and equal to 0.05

Justification: EPY5 ComEd Standard Program research, participating trade ally sample 55

Participant and Non-Participant Spillover Identified by Non-Participating Standard Program Trade Allies: Not measured for ComEd; a value of 0.02 is recommended Justification: 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 0.31

Justification: EPY5 ComEd Standard Program research, 64 participants

Total Recommended Spillover = 0.08

Participant and Non-Participant Spillover Identified by Participating Standard Program Trade Allies: Measured and equal to 0.06

Justification: 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 recommended Justification: Based on GPY2 results from Nicor Gas (0.02), and Peoples Gas and North Shore Gas (0.02).

EPY8

Recommendation:

NTG Lighting: 0.73

NTG Non-Lighting: 0.62

Free-Ridership, Lighting: 0.27

Free-Ridership, Non-Lighting: 0.38

SO: TBD from C&I SO Research

Free Ridership was estimated in PY6 as 0.27 for lighting

Free Ridership for non-lighting = 0.38 for non-lighting

Both 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 C&I market.

The results of the cross-cutting C&I spillover study will be reported separately (spillover results not yet available).

| | Business Custom |
|------|---|
| EPY1 | NTG 0.72 |
| | Free-ridership 28% |
| | Spillover 0% |
| | Method: Customer self-reports. 24 surveys completed from a population of 88. |
| EPY2 | NTG 0.76 |
| | Free-ridership 24% |
| | Spillover 0% |
| | Method: Customer self-reports. 20 surveys completed from a population of 345. |
| EPY3 | NTG 0.56 for kWh and 0.46 for kW |
| | Free-ridership 44% |
| | Spillover 0% |
| | Method: Customer self-reports. 67 surveys completed from a population of 887. |
| EPY4 | Deemed using PY2 = 0.76 |
| | PY4 Research NTG 0.61 for kWh and 0.64 for kW |
| | Free-ridership 39% |
| | Spillover 0% |
| | Method : Customer self-reports. 63 surveys completed from a population of 367. |
| EPY5 | SAG Consensus: |
| | • 0.56 |
| EPY6 | SAG Consensus: |
| | • 0.61 kWh (deemed by SAG for PY6) |
| | • 0.64 kW (deemed by SAG for PY6) |
| | |
| | Values for kWh and kW are derived from PY4 evaluation research results and are based on the |
| | SAG-approved values. |
| EPY7 | Custom NTG: 0.64 |
| | Free-ridership: 0.36 |
| | Participants Spillover: Negligible |
| | Nonparticipants Spillover: Negligible |
| | |
| | Data Centers NTG: 0.48 |
| | Free-ridership 0.52 |
| | Participants Spillover: Negligible |
| | Nonparticipants Spillover: Negligible |
| | |
| | Source: Participant self-report telephone survey. The spillover effects were examined in this |
| | evaluation and their magnitude was found to be quite small as discussed below in the spillover |
| | section. Therefore, a quantification of spillover was not included in the calculation of NTGR for |
| | EPY5. |
| | Notes: In PY5, Data Centers was combined with Custom, while in PY6, Data Centers was |
| | managed separately from with Custom. |
| | Interviews were completed with 5 of 11 Data Center projects. |
| EPY8 | Recommendation: |
| | Custom NTG: 0.67 |
| | Custom Free Ridership: 0.33 |
| | |

| | Business Custom |
|------|--|
| | Custom Spillover: Negligible |
| | |
| | Custom: The above values are from the PY6 research results. NTG research methods in PY6 |
| | consisted of participant and trade allies survey data collection and analysis (n=32). NTG research |
| | methods in PY6 combined participant and service provider survey results. |
| | The existence of participant spillover was examined in PY6 but no significant spillover activity |
| | was reported by participants, and, therefore, quantification was not warranted. |
| | Data Centers |
| EPY7 | Data Centers NTG: 0.48 |
| | Free-ridership 0.52 |
| | Participants Spillover: Negligible |
| | Nonparticipants Spillover: Negligible |
| | |
| | See EPY7 Custom Program |
| EPY8 | Recommendation: |
| | Data Center NTG kWh: 0.60 |
| | Data Center NTG kW: 0.57 |
| | Data Center Free Ridership kWh: 0.40 |
| | Data Center Free Ridership kW:0.43 |
| | Data Center Spillover: Negligible |
| | |
| | NTGR results were based on self-reported data from surveys of a census of PY6 projects. |
| | For PY6, the net program impacts were quantified solely on the estimated level of free-ridership. |
| | Information regarding participant spillover was also collected, but ultimately did not support a |
| | finding of any spillover – spillover was very small. |

| | Industrial Systems (Compressed Air in EPY4) |
|------|--|
| EPY1 | Program did not exist |
| EPY2 | Program did not exist |
| EPY3 | Program did not exist |
| EPY4 | Retroactive application of NTG of 0.67 for kWh and 0.72 for kW (EPY4 Compressed Air) |
| | Free-ridership 33% kWh and 0.28 kW |
| | Spillover 0% |
| | Method: Customer self-report. 7 surveys completed from a population of 9. |
| EPY5 | SAG Consensus: |
| | • 0.67 |
| EPY6 | SAG Consensus: |
| | • 067 |
| EPY7 | NTG: 0.68 |
| | Free-ridership: 0.33 |
| | Participant Spillover: 0.01 |
| | Nonparticipant Spillover: Negligible |
| | Free Ridership and participant spillover was measured in a participant survey on 35 projects. |
| | Interviews were completed with 5 of 11 Data Center projects. |
| EPY8 | Recommendation: |
| | NTG, kWh: 0.74 |
| | Free Ridership, kWh: 0.26 |
| | Spillover, kWh: Negligible |
| | NTG, kW: 0.83 |
| | Free Ridership, kW: 0.17 |
| | Spillover, kW: Negligible |
| | NTG research methods in PY6 consisted of participant and technical service provider survey data collection and analysis (n=17). |
| | The net program impacts were quantified solely on the estimated level of free-ridership. Information regarding participant spillover was also collected, but ultimately did not support a finding of any spillover. |

| | Retro-Commissioning (Joint) |
|-------|---|
| EPY1 | NTG 0.8 |
| | Free-ridership 0% |
| | Spillover 0% |
| | Method : Program <i>ex ante</i> assumption. |
| | Customer self-report. Two completed surveys from a population of four participants bracketed |
| | the assumed NTG. Basic method. |
| EPY2 | NTG 0.916 |
| | Free-ridership 8.4% |
| | Spillover 0% |
| | Method : Customer self-report. Five surveys completed from an attempted census of a population |
| | of thirteen. Basic method. |
| EPY3 | NTG 0.71 |
| 21 10 | Free-ridership 28.7% |
| | Spillover 0% |
| | Method : Customer self-report. Eight surveys completed from an attempted census of a |
| | population of 34 participants. Basic method. |
| EPY4 | Deemed NTG of 0.916 from EPY2 |
| | Research NTG 1.04 |
| | Free-ridership 0.097 |
| | Spillover 0.136 |
| | Method : Program <i>ex ante</i> assumption and stipulated for EPY4. NTG based on EPY2 research. |
| | EPY3 research rejected due to small ratio of completed surveys. |
| EPY5 | SAG Consensus: |
| | • 0.71 |
| EPY6 | SAG Consensus: |
| | • 1.04 |
| EPY7 | NTG: 1.04 |
| | There was no new NTG research in EPY5. The most recent NTG research is from PY4. |
| | Free-ridership: 0.10. The PY4 free-ridership ratio is an equally weighted average of savings- |
| | weighted participant and service provider free-ridership scores. |
| | |
| | Participant spillover: 0.14. Source: Participant and trade ally surveys. |
| | (Includes spillover from trade allies that account for 94% of program participation) |
| | Nonparticipant spillover: Negligible. There is no evidence of non-participant spillover. Service |
| | providers are dropped from the program if they are not generating projects. If they are not |
| | generating projects in the program, they are probably not generating them outside the program. |
| EPY8 | Recommendation: |
| Li io | NTG: 0.95 (electric) |
| | Free Ridership: 0.09 (electric) |
| | Spillover: 0.04 (electric) |
| | opinover. 0.01 (electric) |
| | Spillover and free-ridership were calculated from self-report interviews with participants and |
| | service providers (n=18). The final EPY6 free-ridership ratio is an equally weighted average of |
| | savings-weighted participant and RSP free-ridership. Interviewed service providers account for |
| | savings weighted participant and for free fluctually, fine viewed service providers account for |

| Retro-Commissioning (Joint) |
|---|
| 92% of electric savings. |
| NTG research was not conducted for the gas companies. |

| | Business New Construction Service (Joint) |
|-------|--|
| EPY1 | NTG was not evaluated for EPY1 because program began in EPY2. |
| EPY2 | NTG 0.59 |
| | Free-ridership 41% |
| | Spillover 0% |
| | Method: Customer self-report. 14 projects were assessed from a population of 16. |
| | Enhanced method. NTG scores were adjusted for standard design national retail stores. |
| EPY3 | NTG 0.65 (0.69 for Systems Track and 0.54 for Comprehensive Track) |
| | Free-ridership 35% |
| | Spillover 0% |
| | Method : Customer self-report. 13 interviews with individuals representing 15 projects out of |
| | population of 37 projects. |
| | Enhanced method. NTG scores were adjusted for standard design national retail stores. |
| EPY4 | Compressive Track - Retroactive application of NTG of 0.54 |
| | Systems Track used PY2 value of 0.59 |
| | NTG 0 = 4 |
| | NTG 0.57 (based on weighted avg. of 0.59 for Systems Track and 0.54 for Comprehensive Track) |
| | EPY4 Research Comprehensive Track 0.54 |
| | EPY4 Research Systems Track 0.59 |
| | Free-ridership 43% |
| | Spillover 0% Method: EPY3 deemed value for Systems Track projects. Customer self-report for Comprehensive |
| | Track projects. Interviews with individuals representing 5 of 6 Comprehensive Track projects. |
| | Enhanced method. NTG scores were adjusted for standard design national retail stores and LEED |
| | projects. |
| EPY5 | SAG Consensus: |
| 21 10 | • 0.65 |
| EPY6 | SAG Consensus: |
| | • 0.52 |
| EPY7 | Full Program NTG: 0.59 |
| | Comprehensive NTG: 0.59 |
| | Systems Projects NTG: 0.64 |
| | |
| | Free-ridership 0.43 |
| | Spillover (all types) 0.05 |
| | |
| | Source. |
| | The NTG from estimate is from the EM&V EPY4 participant survey. |
| | Spillover is an EM&V estimate based on our literature review. In 50 participant interviews from |
| | EPY2-4 we found 2 spillover projects. Some of those interviews were early in the program's life |
| | when spillover is less likely. We also looked at existing literature on past studies and a wide |
| | range of spillover values. For example, in September of 2012, National Grid Rhode Island |

Business New Construction Service (Joint)

published a study: "2011 Commercial and Industrial Programs Free-ridership and Spillover Study." For commercial new construction, they found 78% participant spillover and 0% non-participant spillover. Southern California Gas recently did a study to estimate spillover for its 2013 and 2014 Savings By Design program by looking at past studies. They only found a couple of older California studies relevant to commercial new construction. The 2003 BEA reported 11% participant spillover and 1% non-participant spillover. A 2002 study by the same evaluator showed 13% participant spillover and 5% non-participant spillover. Finally, they also looked at the NYSERDA New Construction Program Impact Evaluation Report from 2007-2008, which found participant spillover of 20% and non-participant spillover of 61%. This study has been questioned and we understand that NYSERDA is reevaluating its validity.

Our conclusion is that, given the ComEd program design and implementation approach, it is reasonable to expect that a meaningful amount of spillover is being created and should be credited to the program. Given the range of spillover amounts we found in our literature review, we believe a spillover amount of 5% is probably a realistic and probably conservative estimate. That spillover is probably occurring through the action of architects, engineers, and builders who have had exposure to the program and, to a lesser degree, building owners who had a building go through the program. Given that mix, we have not tried to differentiate between participant and nonparticipant spillover.

EPY8 | **Recommendation**:

Full Program NTG: 0.80 - Preliminary, updated number to be provided later

Free-ridership: 0.20 Spillover: 0.00

The researched NTGRs are being developed using a "real-time" approach where the evaluation team conducts interviews with program participants both after each project passes the reservation phase, and again after it passes the verification phase. Note that this PY8 recommended NTGR value was calculated after only the first interview for most participants and so may change after the second round interviews have been completed. The EM&V team will provide a revised number by February 2.

Based upon the relatively few changes to responses between the first round and second round NTGR interviews conducted during the pilot phase of this new NTGR approach, we do not anticipate substantial changes to this value.

| | BILD and MidStream Incentives |
|--------|--|
| EPY1 | N/A No Program |
| EPY2 | N/A No Program |
| EPY3 | N/A Pilot Program – no data collection |
| EPY4 | Retroactive application of NTG of 0.63 |
| LI 14 | Free-ridership 39% |
| | Spillover 2% |
| | Method : Customer self-report. 51 surveys completed from a population of about 5,000 (contact |
| | information available for only a small subset of participants). |
| | 11 Trade ally surveys also conducted resulting in a NTG of 0.56 but this result was not factored in |
| | to the customer free ridership calculation. |
| EPY5 | SAG Consensus: |
| | • 0.74 |
| EPY6 | SAG Consensus: |
| | • 0.63 |
| EPY7 | 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 (perhaps as few as 1 or 2) midstream lighting programs offered around the |
| | country and the others are very small and new, have not yet been evaluated, and thus provide no |
| | research on nonparticipant spillover. Given how this program is administered it is likely that |
| | nonparticipant spillover would be very small. |
| | |
| | Source: PY5 participant and distributor self-report surveys. |
| ED1 (0 | Notes: In PY5, Midstream Incentive Lighting was renamed BILD. |
| EPY8 | Recommendation (based on 3-year averages): |
| | NTG CFL: 0.66 |
| | NTG LED/HID: 0.75 |
| | NTG Linear FL: 0.59 NTG Other: 0.75 |
| | NIG Other: 0.75 |
| | Research NTG ratios calculated from PY6 participants: |
| | PY6 NTG CFL: 0.68 |
| | Free Ridership CFL: 0.39 |
| | Spillover CFL: 0.07 |
| | opinover et a. 0.07 |
| | PY6 NTG LED/HID: 0.77 |
| | Free Ridership: 0.30 |
| | Spillover LED/HID: 0.07 |
| | |
| L | |

| BILD and MidStream Incentives |
|---|
| PY6 NTG Linear FL: 0.61 |
| Free Ridership: 0.45 |
| Spillover Linear FL: 0.07 |
| PY6 NTG Other: 0.67 Free Ridership: 0.40 |
| Spillover: 0.07 |
| In PY6, two primary methods were used to estimate the NTGR: Customer self-report approach based on the end-user telephone surveys of 282 participants and in-depth interviews with 9 BILD end-user participants. Supplier self-reports based on in-depth interviews with program lighting distributors. |

| | Small Business Energy Savings (Joint) |
|-------|---|
| EPY1 | No Program |
| EPY2 | No Program |
| EPY3 | No Program |
| EPY4 | Retroactive application of NTG of 0.95 |
| E1 14 | Free-ridership 5% |
| | Spillover 0% |
| | Method : Customer self-report. 84 NTG surveys completed from a population of 181. Basic |
| | method of NTG analysis was used. No spillover was found. Customer participant self-reported |
| | free-ridership was 17 percent for ComEd. Individual trade ally responses to free-ridership |
| | questions were weighted by their respective fuel-specific program savings contributions and |
| | combined for a fuel-specific overall free-ridership rate. This approach resulted in an evaluation |
| | estimate of 5 percent free-ridership for electric measures and was used to calculate the NTG of |
| | 0.95 for this ComEd program. |
| EPY5 | SAG Consensus: 0.90 |
| EPY6 | SAG Consensus: 0.95 |
| EPY7 | NTG: 0.95 |
| | No new NTG research in PY5. |
| | Free Ridership: 5%. Customer self-report survey. |
| | Participant Spillover: 0% Customer and trade ally self-report survey. |
| | Nonparticipant Spillover: 0% Trade ally survey |
| | Three small participant spillover projects were included in the ComEd NTGR, but the impact |
| | (about 0.003 added) was not significant at the two-digit level. Trade allies provided anecdotal |
| | evidence of non-participant spillover for electric measures, but they did not provide enough |
| | information to quantify it. |
| EPY8 | Recommendation: |
| | NTG: 0.95 |
| | Free-ridership: 0.05 |
| | Recommendation is based upon PY7 NTG SAG recommendation. The PY6 evaluation did not |
| | include new free-ridership or spillover research. |

Residential Programs

| | Residential Lighting - Smart Lighting Discounts |
|-------|---|
| EPY1 | NTG 0.69 |
| ELII | Free-ridership 38% |
| | Spillover 7% |
| | - |
| | Method : Customer self-report. Based on phone surveys with 100 coupon participants and 56 Gen Pop identified participants. |
| EPY2 | NTG 0.58 |
| E1 12 | Free-ridership 48% |
| | Spillover 6% |
| | Method: Average of two customer self-report methods (based on general population survey [201 |
| | completes] and in-store intercept surveys [381 completes]). A supplier self-report method (22 |
| | surveys) and a revealed preference demand model method were also employed and resulted in |
| | lower NTGR estimates but were believed to be less accurate methods. |
| EPY3 | NTG 0.71 |
| LITO | Free-ridership 31% |
| | Spillover 2% |
| | Method : A customer self-report method based on in-store intercept surveys [496 completes]. A |
| | supplier self-report method (13 surveys) and a multi-state regression model was also employed |
| | and resulted in lower NTGR estimates but were believed to be less accurate methods. |
| EPY4 | Deemed using PY2 values |
| | EPY4 Research NTG 0.54 Total, 0.55 Standard, 0.44 Specialty, 0.54 Other - Fixture/LEDs |
| | Free-ridership 47% Standard, 58% Specialty, 48% Other - Fixture/LEDs |
| | Spillover 2% |
| | Method : Customer self-report method based on in-store intercept surveys (719 intercept surveys). |
| PY5 | SAG Consensus: |
| | Standard CFL: 0.72 |
| | Specialty CFL: 0.80 |
| | CFL Fixtures: 0.79 |
| EPY6 | SAG Consensus: |
| | • Standard CFL: 0.54 |
| | Specialty CFL: 0.80 |
| | CFL Fixtures: 0.54 |
| EPY7 | NTG (based upon 3 year weighted average): |
| | Standard CFL: 0.60 |
| | Specialty CFL: 0.55 |
| | CFL Fixtures: 0.75 |
| | LED Bulbs: 0.48 |
| | LED Fixtures: 0.54 |
| | Coupon: 0.55 |
| | Source: EPY5 in-store intercept surveys. 3 year average NTG for Standard and Specialty CFLs. |
| | EM&V estimate for CFL Fixtures, LED Bulbs, and LED Fixtures. Rationale: They are higher priced |
| | and less common products so the barrier to adoption is higher, meaning the incentive has |

Residential Lighting - Smart Lighting Discounts

relatively more impact on the purchase decision than for the more common standard and specialty CFLs.

Participant Spillover: 0.01 all bulb types. Source: EPY5 in-store intercept surveys.

Nonparticipant Spillover: 0.003 all bulb types. Source: EPY5 in-store intercept surveys. 477 nonparticipants interviewed.

Table E-1. 3-Year Average Standard and Specialty NTGR for ComEd

| Draguem Vocas | Standard | l CFLs | Specialty CFLs | | |
|----------------------------------|------------|--------|----------------|------|--|
| Program Year | Bulbs | NTGR | Bulbs | NTGR | |
| EPY3 | 9,893,196 | 71% | 1,217,723 | 71% | |
| EPY4 | 11,419,752 | 55% | 1,097,670 | 44% | |
| EPY5 | 9,633,227 | 55% | 1,197,896 | 48% | |
| 3-year Weighted Average for EPY7 | - | 60% | - | 55% | |

Source: Navigant team analysis.

Table 11 – PY5 FR, Spillover and NTGR Estimates Compared to Prior Program Years (From NTG Memo)

| Net Impact Parameters | Population | PY5 | PY4 | PY3 | PY2 |
|--------------------------|-------------------|------|------|------|------|
| | Standard CFLs | 0.47 | 0.47 | | |
| Free-ridership | Specialty CFLs | 0.53 | 0.58 | | |
| | All Program Bulbs | 0.48 | 0.48 | 0.31 | 0.46 |
| | Standard CFLs | 0.02 | 0.02 | | |
| Spillover | Specialty CFLs | 0.02 | 0.02 | | |
| | All Program Bulbs | 0.02 | 0.02 | 0.02 | 0.05 |
| | Standard CFLs | 0.54 | 0.55 | | |
| NTGR | Specialty CFLs | 0.48 | 0.44 | | |
| | All Program Bulbs | 0.54 | 0.54 | 0.71 | 0.60 |

EPY8 | Recommendation (based upon 3 year averages)

NTG Standard CFL: 0.56 NTG Specialty CFL: 0.50 NTG CFL Fixtures: 0.56 NTG LED Bulbs: 0.73 NTG LED Fixtures: 0.73 NTG Coupon: As above

PY6 NTG Research:

NTG Standard CFL: 0.59

Free Ridership Standard CFL: 0.41 Spillover Standard CFL: 0.01

Residential Lighting - Smart Lighting Discounts

PY6 NTG Specialty CFL: 0.54 Free Ridership Specialty CFL: 0.47 Spillover Specialty CFL: 0.01

PY6 NTG CFL Fixtures: 0.54 (no research in PY6

CFL Fixtures FR: none CFL Fixtures SO: none

PY6 NTG LED Bulbs: 0.73

FR LED Bulbs: 0.44 SO LED Bulbs: 0.17

PY6 NTG LED Fixtures: 0.73

FR LED Fixtures: 0.44 SO LED Fixtures: 0.17

NTGR Parameters for Future Use

| Parameter | Value | Data Source |
|-----------|---|--|
| NTGR | 0.56 Standard CFL 0.50 Specialty CFL | 3-year rolling average (PY4-PY6) of Evaluation Research Findings |
| | 0.73 LEDs | ComEd NTG Recommendations from Res Lighting NTG LED Results Memo dated Dec. 18, 2014 |

Source: Evaluation team analysis

The recommended values above are based on a three year NTG average for this program. The PY6 research NTGR was estimated using the customer self-report method based on data collected during the PY6 in-store intercept surveys.

| | Fridge Fre | ezer Recvc | ling Rev | wards | | | |
|------|--|--------------------|-----------------------|--|--|--|--|
| EPY1 | Fridge Freezer Recycling Rewards NTG 0.70 for refrigerators, 0.83 for freezers, 1.0 for Room AC units | | | | | | |
| | | | | for freezers, 0% for Room AC units | | | |
| | Spillover 0% for all measure types | | | | | | |
| | - | | | ys completed (70 refrigerator respondents, 30 freezers), | | | |
| | | d calls with 498 | | | | | |
| EPY2 | | | | ers, 0.72 for Room AC units | | | |
| | | | | for freezers, 28% for Room AC units | | | |
| | Spillover 0% f | or all measure ty | pes | | | | |
| | Method: Custo | mer self-report. | 152 surve | ys completed – 114 Refrigerator, 38 Freezer, 30 Room AC | | | |
| | Recyclers, fron | n attempted calls | s with 744 | respondents | | | |
| EPY3 | NTG 0.67 for r | efrigerators, 0.75 | 5 for freeze | ers, 0.70 for Room AC units | | | |
| | Free-ridership | 33% for refriger | ators, 25% | for freezers, 30% for Room AC units | | | |
| | _ | or all measure ty | • | | | | |
| | | • | | ys completed – 151 Refrig., 51 Freezer, 30 Room AC | | | |
| | | n attempted calls | | | | | |
| EPY4 | | g PY2 values NT | G 0.73 for | refrigerators, 0.77 for freezers, and 0.58 for Room AC | | | |
| | units | | | | | | |
| | | | _ | tors and freezers, 0.58 for Room AC. | | | |
| | | | | for freezers, 42% for Room AC units | | | |
| | _ | or all measure ty | | ilou calf namouta Waishtad arrange from combining | | | |
| | | _ | | iler self-reports. Weighted average from combining mpleted with participating customers –150 Refrig., 50 | | | |
| | | | - | empted calls with 2,225 respondents | | | |
| EPY5 | SAG Consensu | • | <i>5,</i> 110111 atte | impled can's with 2,225 respondents | | | |
| Li | | erators: 0.67 | | | | | |
| | Freeze | | | | | | |
| | | AC: 0.70 | | | | | |
| EPY6 | SAG Consensu | ıs: | | | | | |
| | Refrige | erators: 0.73 | | | | | |
| | • Freeze | rs: 0.82 | | | | | |
| | • Room | AC: 0.72 | | | | | |
| EPY7 | NTG: | | | | | | |
| | | | | | | | |
| | Unit Type | Non-Retailer | Retailer | | | | |
| | Refrigerator | 79% | 17% | | | | |
| | Freezer | 59% | 21% | | | | |
| | Room ACs | 50% | | | | | |
| | Source: EPY5 p | participant surve | eys, partici | pating retailer surveys, nonparticipating retailer surveys | | | |
| | Participant Sp | illover: Negligi | hle | | | | |
| | | | | | | | |
| | Nonparticipant spillover: Negligible No spillover primary research done in EPY5. A literature review of other research does not | | | | | | |
| | support meaningful spillover. | | | | | | |
| | Note: ODC-Ameren accepted the ComEd values. | | | | | | |

| | Fridge Freezer Recycling Rewards |
|------|---|
| | |
| EPY8 | Recommendation: |
| | NTG Fridge, Retailer: 0.15 - this would be NTG of 0.29 w/out Vendor #1 |
| | NTG Fridge, Non-Retailer: 0.77 |
| | NTG Fridge, Weighted Average Retailer and Non Retailer: 0.53 |
| | NTG Freezer, Retailer: 0.16 – this would be 0.30 NTG w/out Vendor #1 |
| | NTG Freezer, Non-Retailer: 0.58 |
| | NTG Freezer, Weighted Average Retailer and Non Retailer: 0.57 |
| | NTG Room ACs: 0.50 |
| | NTG Room AC, Non-Retailer: 0.50 |
| | FR Fridge, Retailer: 0.85 |
| | FR Fridge, Non-Retailer: 0.23 |
| | FR Fridge, Weighted Average: 0.47 |
| | FR Freezer, Retailer: 0.84 |
| | FR Freezer, Non-Retailer: 0.58 |
| | FR Freezer, Weighted Average: 0.43 |
| | Based upon PY6 Participant and Retailer Surveys. PY6 data sources include telephone surveys with participating customers, telephone surveys with nonparticipating customers, in-depth interviews with participating retailers and telephone surveys with non-participating retailers associated with unit replacements. |
| | Information regarding participant spillover was also collected, but ultimately did not support a finding of any spillover. |

| | Multi-Family Comprehensive (Joint) |
|------|--|
| EPY1 | NTG 0.80 |
| | Free-ridership n/a |
| | Spillover n/a |
| | Method: ComEd planning documents. (No EMV NTG analysis). |
| EPY2 | Program NTG 0.88 |
| | Measure Specific: |
| | CFLs NTG 0.81 |
| | CFLs Free Ridership 27% |
| | CFLs Spillover 18% |
| | Water Efficient Showerheads NTG 0.93 |
| | Water Efficient Showerheads Free Ridership 9% |
| | Water Efficient Showerheads Spillover 2% |
| | Water Efficient Aerators NTG 0.94 |
| | Water Efficient Aerators Free Ridership 6% |
| | Water Efficient Aerators Spillover 0% |
| | Method: Participant Self-Report. CATI telephone survey with 75 participating tenants (90/9). |
| EPY3 | Program NTG 0.90 |
| | Measure Specific: |

| | Multi-Family Comprehensi | ive (Ioi | nt) | | | | |
|------|---|------------|--|--|--|--|--|
| | CFLs NTG 0.81 | () 0 1 | | | | | |
| | CFLs Free Ridership 20% | | | | | | |
| | CFLs Spillover 1% | | | | | | |
| | Water Efficient Showerheads NTG 0.93 | | | | | | |
| | Water Efficient Showerheads Free Ric | | % • | | | | |
| | Water Efficient Showerheads Spillov | _ | | | | | |
| | Water Efficient Aerators NTG 0.94 | | | | | | |
| | Water Efficient Aerators Free Ridersh | ip 6% | | | | | |
| | Water Efficient Aerators Spillover 0% | _ | | | | | |
| | Method : Participant self-report. CATI | telephone | survey with 140 participating tenants (90/10). | | | | |
| EPY4 | Deemed using EPY2 values: | | | | | | |
| | Program NTG 0.83 | | | | | | |
| | Measure Specific: | | | | | | |
| | CFLs NTG 0.81 | | | | | | |
| | Water Efficiency Measures (Aerators | + Shower | heads) NTG 0.93 | | | | |
| | Verification Method: Applied EPY2 e | valuation | findings according to NTG Framework. | | | | |
| | EPY4 Research Findings: | | | | | | |
| | Program NTG 0.97 | | | | | | |
| | CFLs NTG 0.98 | | | | | | |
| | Water Efficiency Measures (Aerators | | heads) NTG 0.92 | | | | |
| | Water Efficient Showerheads NTG 0. | 91 | | | | | |
| | Water Efficient Aerators NTG 0.93 | . CATT | | | | | |
| | | ort. CA11 | telephone survey with participating decision- | | | | |
| EPY5 | makers (37 property managers) SAG Consensus: | | | | | | |
| EF13 | | 0.81 | | | | | |
| | Multi-Family – Lighting | | _ | | | | |
| EPY6 | Multi-Family – Water Measures SAG Consensus: | 0.93 | | | | | |
| EFIO | l i | 0.98 | 1 | | | | |
| | Multi-Family – CFLs | | - | | | | |
| | Multi-Family - Showerhead | 0.92 | _ | | | | |
| | Multi-Family – Common Areas | 0.80 | | | | | |
| EPY7 | Evaluation used EPY4 research findir | ıgs: | | | | | |
| | Program NTG 0.98 CFLs NTG 0.98 | | | | | | |
| | Water Efficient - Showerheads NTG (| 2.02 | | | | | |
| | Water Efficient – Bath Aerators NTG | | | | | | |
| | Water Efficient – Kitchen Aerators N | | | | | | |
| | Other measures: 0.95 (programmable | | ts and water temperature turndown) | | | | |
| | Posti da sal sallos Comunication | | to in the cotton to INTC Other recovery No. | | | | |
| | | - | is in the estimated NTG. Other measures: No | | | | |
| | | _ | iven the program approach and program theory. illover is likely for any measures given the | | | | |
| | program approach and program theor | | mover is likely for any measures given me | | | | |
| | program approach and program theor | <i>J</i> • | | | | | |
| | Research Method: Participant self-rep | ort. CATI | telephone survey with participating decision- | | | | |

Multi-Family Comprehensive (Joint)

makers (37 property managers).

For EPY7 comprehensive projects, Navigant recommends a NTGR of 0.95. These are new measures, and Navigant's research indicates that the target market for this program is unlikely to install these measures without the existence of the program, similar to PY4 ComEd Small Business Energy Savings program evaluation research findings.

For EPY7 CFL direct install free-ridership, Navigant recommends the PY4 evaluation research finding NTGR of 0.98, based on survey self-report data from participating property managers. Navigant recommends the PY4 values for each of the water efficient measures (showerheads, bath aerators and kitchen aerators).

EPY8 | **Recommendation**:

NTG Direct Install CFLs and LED Lighting: 0.98

NTG Hot Water Measures (showerhead, bath aerators, kitchen aerator): 0.92, 0.94 and 1.00

NTG Unit Measures: 0.95

NTG Common Areas Measures: 0.95

NTG Thermostat: 0.90

EPY6 research on thermostat NTG was based on secondary research. There was no EPY6 research for other measures, thus the evaluation team recommends using the EPY7 values – see detail above for EPY7.

Home Energy Savings (Single Family Retrofit) (Joint)

EPY1

NTG 0.80

Free-ridership 0.20

Spillover NA

Method: ComEd Program Assumption. The EPY1 evaluation did not estimate the net to gross ratio. The value of 80% is drawn from the program plan presented in ComEd's 2008-2010 Energy Efficiency and Demand Response Plan (November 15, 2007). Page D-2 of the ComEd plan provides a footnote stating the net to gross ratio of 80% is drawn from the California Energy Efficiency Policy Manual, version 2 (2003).

EPY2

NTG 0.87

Free-ridership 26%

Spillover~3.5%

Method: Customer self-reports. 130 surveys completed from a population of 760.

| Measure | NTG Ratio | FR | so |
|-----------------------------|--------------|-----|------|
| CFL | 0.72 | 34% | 6.4% |
| Kitchen Aerators | 0.97 | 3% | 0.0% |
| Bathroom Aerators | 0.97 | 3% | 0.0% |
| Showerheads | 0.93 | 8% | 0.5% |
| Pipe Insulation | 1.02 | 7% | 9.0% |
| Total Direct Install | 0.87 | 26% | 3.5% |

EPY3

NTG 0.74

Free-ridership 27%

Home Energy Savings (Single Family Retrofit) (Joint)

Spillover 4%

Method: Customer self-reports. 122 full participant (direct install and weatherization measures) and direct install-only participant surveys completed from a population of 413 full participants and 962 direct install-only participants.

| Measure | NTG | FR | SO |
|------------------------------|------|-----|----|
| Compact Fluorescent Bulbs | 0.68 | 34% | 3% |
| Air Sealing | 0.99 | 8% | |
| Attic Insulation | 0.98 | 9% | |
| Floored Attic Insulation | 0.98 | 9% | |
| Exterior Wall Insulation | 0.96 | 11% | |
| Sloped Insulation | 0.96 | 11% | 7% |
| Knee Wall Insulation | 0.96 | 11% | |
| Crawl Space Insulation | 0.96 | 11% | |
| Duct Insulation | 0.99 | 8% | |
| Rim Joist Insulation | 0.96 | 11% | |
| Seal and Repair Ducts | 0.93 | - | |
| Overall | 0.74 | 27% | 4% |

EPY4 | **Retroactive application of NTG*** 0.83 (Preliminary)

Overall Free-ridership* 18% (Preliminary)

Overall Spillover* 1% (Preliminary)

*A final draft of the report has not been submitted yet, thus these values may change.

Method: Customer self-reports. 54 full-participant (direct Install and weatherization measures) surveys completed from a population of 1,081 audits and 320 full-participants.

| | Measure | NTG* | Free Ridership* | Spillover* |
|---------------------|---|------|--------------------|------------|
| | 9 Watt CFL | 0.79 | 0.25 | 0.04 |
| | 14 Watt CFL | 0.79 | 0.25 | 0.04 |
| | 19 Watt CFL | 0.79 | 0.25 | 0.04 |
| | 23 Watt CFL | 0.79 | 0.25 | 0.04 |
| | 9 Watt Globe CFL | 0.79 | 0.25 | 0.04 |
| | Low Flow Shower Head | 0.93 | 0.07 | 0.00 |
| Direct- | Kitchen Aerator | 1.00 | 0.01 | 0.01 |
| Install Measures | Bathroom Aerator | 1.00 | 0.01 | 0.01 |
| | Hot Water Temperature Setback | 0.88 | 0.12 | 0.00 |
| | Pipe Insulation | 0.89 | 0.18 | 0.07 |
| | Programmable Thermostat | 0.85 | - | - |
| | Programmable Thermostat Education | 0.85 | - | - |
| Retrofit | Attic Insulation | 0.75 | 0.27 | 0.02 |

| Hom | e Energ | y Savings | (Single F | amily | y Re | etrofit) | (Joint) | |
|-----------------------|---|--------------------------------------|------------------------------|-----------|---------|------------------|---------------|------------------|
| | | Measures | Wall Insulation | n 0.7 | 8 | 0.22 | 0.00 | |
| | | | Floor Insulatio (Other) | n 0.7 | 6 | 0.24 | 0.00 | _ |
| | | | Duct Insulation | n 0.8 | 0 | - | - | _ |
| | | | Air Sealing | 0.8 | 4 | 0.16 | 0.00 | _ |
| | | Overall Program | | 0.8 | | 0.18 | 0.01 | _ |
| ED) /5 6 6 | | *A final draft of t | he report has not b | een submi | tted ye | et, thus these v | alues may cha | inge. |
| EPY5 Sag Co EPY6 | nsensus: | | | | | EPY5 | EPY6 | 1 |
| Lighti | ng | | | | | 0.89 | 0.79 | |
| Single | Family wit | :h Gas _ Shov | verhead | | | 0.94 | 0.75 | |
| Single | Family wit | h Gas_ Kitch | en Aerator | | | 0.94 | | |
| Single | Family wit | h Gas _ Bath | Aerator | | | 0.94 | | |
| Single | Family wit | h Gas _ Wate | er Heater Tem | np Setb | ack | 0.94 | |] |
| Single | Family wit | h Gas _ Pipe | Insulation | | | 0.94 | | |
| Weat | herization I | Measures | | | | 0.80 | 0.80 | |
| Attic | Insulation | | | | | 0.80 | | |
| Wall | nsulation | | | | | 0.80 | | |
| Floor | Floor Insulation (other) | | | | | 0.80 | | |
| Duct | Duct Sealing | | | | | | | |
| Air Se | aling | | | | | 0.80 | | |
| Weath Source | • | I TG: 1.02 nt surveys in i | EPY4 and EPY was weighted | | | | | For Weatherizati |
| Suppo | rting Infor | mation | | | | | | |
| | | Free | Participant | NTG | | | | |
| | | Ridership | Spillover | | | | | |
| | t Install | 0.23 | 0.03 | 0.80 | | | | |
| | herization | 0.10 | 0.11 | 1.02 | | | | |
| | am Wide | 0.20 | 0.05 | 0.85 | | | | |
| - | mendation | | D (1 | P1 | V.1 | 1 \ | | |
| | | | Report based 1 | • | | | unou DVA | l vocoavch) |
| | NTG Hot Water Measures w/gas: 0.75 - (used in PY6 Report based upon PY4 research) NTG Direct Install Measures: 0.80 - (from PY7 Recommendation based upon PY5 research) | | | | | | | |
| | | | • | | | | • | on PY5 research |
| | | | dary 2010 MA | | | | | |
| | | | | | | | | |
| FR CF | | | | | | | | |
| FR Ho | t Water: NA | A | | | | | | |

| Home Energy Savings (Single Family Retrofit) (Joint) |
|---|
| FR Direct Install: 0.23 |
| FR Weatherization: 0.10 |
| FR Thermostat: NA MA/VT secondary research |
| SO CFL: na |
| SO Hot Water: NA |
| SO Direct Install: 0.03 |
| SO Weatherization: 0.11 |
| SO Thermostat: NA MA/VT secondary research |
| EPY6 research on thermostat NTG was based on secondary research. There was no EPY6 research |
| for other measures, thus the evaluation team recommends using the EPY7 values – see detail |
| above for EPY7. |

| | T | | | | | |
|------|--|--|--|--|--|--|
| | Complete System Replacement (HEER) (Joint) | | | | | |
| EPY1 | CSR program not offered in EPY1 | | | | | |
| EPY2 | CSR program not offered in EPY1 | | | | | |
| EPY3 | CSR program not offered in EPY1 | | | | | |
| EPY4 | Retroactive application of NTG of 59% | | | | | |
| | Free-ridership: 41% | | | | | |
| | Spillover: 0% | | | | | |
| | Method: Customer self-report. | | | | | |
| EPY5 | SAG consensus: Retrospective evaluation | | | | | |
| EPY6 | SAG consensus: | | | | | |
| | • 0.59 | | | | | |
| EPY7 | NTG: 0.99 | | | | | |
| | | | | | | |
| | Free Ridership: Participant 0.41; Trade ally 0.25; Average = 0.33 | | | | | |
| | (EPY4 participant survey and EPY5 participating trade ally surveys) | | | | | |
| | Participant Spillover: 0.12 from participating trade ally survey | | | | | |
| | Nonparticipant Spillover: 0.20 from nonparticipant trade ally survey. | | | | | |
| | Ameren HVAC. Very similar values for spillover. (0.1 and 0.22). Free-ridership varies from 44% to 69%. | | | | | |
| | The overall program NTG was calculated by averaging the EPY4 participant and the EPY5 trade ally free-ridership rates, and then adding the EPY4 participant spillover, and EPY5 participating trade ally and non-participating trade ally spillover, as follows: | | | | | |
| | $NTG_{Program} = 1 - \frac{(FR_{Part.} + FR_{TA})}{2} + SO_{Part.} + SO_{Part.TA} + SO_{Non-Part.TA}$ | | | | | |
| | Where NTGProgram = Program NTG FRPart. = Participant Free-Ridership FRTA = Trade Ally Free-Ridership SO _{Part.} = Participant Spillover | | | | | |

Complete System Replacement (HEER) (Joint)

SO_{PartTA} = Participating TA Spillover SO_{Non-PartTA} = Non-Participating TA Spillover

<u>Finding</u>: The NTG rate found in this evaluation is 99% combining participant free ridership (0.41), trade ally free ridership (0.25), and spillover (0.12 participating trade ally and 0.20 nonparticipating trade ally).

Participating Trade Ally Free Ridership and Spillover

| | Sales Weighted Free-Ridership | Sales Weighted Spillover | N |
|--------------------------------|----------------------------------|-----------------------------|----|
| Highest Volume Trade Allies | 0.21 | 0.12 | 13 |
| Medium Volume Trade Allies | 0.34 | 0.10 | 18 |
| Lowest Volume Trade Allies | 0.35 | 0.20 | 18 |
| All Participating Trade Allies | 0.25 | 0.12 | 49 |

Source: Evaluation Team analysis.

Non-Participant Trade Ally Spillover

| Non-Part TA SO Savings (kWh) | Program Savings | Non-Part TA SO Rate |
|---------------------------------|-----------------|------------------------|
| 598,288 | 3,011,855 | 0.20 |

EPY8 Recommendation:

NTG: 0.99

Free-ridership w/Gas Participant: 0.41

Free-ridership w/Gas TA: 0.25 TA Spillover (Participant): 0.12 TA Spillover (Non-Participant): 0.20

There was no additional NTG research conducted for EPY6. The recommended value is the same as the PY7 recommendation.

| | Residential New Construction (Joint) | | | |
|------|--|--|--|--|
| EPY1 | No Program | | | |
| EPY2 | No Program | | | |
| EPY3 | No Program | | | |
| EPY4 | NTG not evaluated. Program just launched. No impact evaluation. No kWh savings | | | |
| EPY5 | SAG Consensus: Retrospective evaluation | | | |
| EPY6 | SAG Consensus | | | |
| | • 0.80 | | | |
| EPY7 | NTG: 0.80 | | | |
| | Free-ridership 0.20 | | | |
| | Participants Spillover: negligible | | | |
| | Nonparticipants Spillover: negligible | | | |

| | Residential New Construction (Joint) | | |
|------|---|--|--|
| | Source: Planning value used in each prior year. There are no evaluation NTG has been conducted yet. The program is so young it is unlikely to be creating meaningful spillover. | | |
| EPY8 | Recommendation: | | |
| | NTG: 0.80 | | |
| | There was no additional NTG research conducted for PY6. The recommended value is the same as the EPY7 NTG recommendation. | | |

| | Elementary Energy Education (Joint) | | | | | | |
|-----------|--|--|--|--|--|--|---|
| EPY4 | Measure | Research Findings Nicor Gas-only FR | Research Findings Nicor Gas-only SO | Research Findings Nicor Gas-only NTG | Research Findings Nicor Gas- ComEd FR | Research Findings Nicor Gas- ComEd SO | Research Findings Nicor Gas- ComEd NTG |
| | Showerheads | 39% | 7% | 68% | 22% | 19% | 96% |
| | Kitchen Aerators | 33% | 2% | 69% | 18% | 14% | 97% |
| | Bathroom Aerators | 35% | 7% | 71% | 22% | 9% | 87% |
| | CFLs | NA | NA | NA | 53% | 31% | 78% |
| EPY5 EPY6 | • 0.76 | | | | | | |
| EPY7 | NTG: 0.76 Free-ridership: See EPY4 table Participant spillover: see EPY4 table Nonparticipant spillover: negligible Source: EPY4 participant survey. No new evaluation research in EPY5. No material changes to market or program. | | | | | | |
| EPY8 | Recommendation: NTG: 0.76 | | | | | | |
| | There was no additional NTG research conducted for PY6. The recommended value is the same as the PY7 NTG recommendation. | | | | | | |

IPA and Third-Party Programs

Regression Based EM&V Analysis

EM&V impact analysis (regression) will create net savings, not adjusted gross therefore EM&V does not calculate a NTG ratio that could be applied prospectively for the following programs:

- C&I Behavioral (Agentis)
- Home Energy Report
- CUB C3 (third party)
- Great Energy Stewards (third party)

Third-Party Programs

The calculated NTG values from PY6 and evaluator recommendations are as follows:

• RLD C&I Thermostats: 1.0

• RSG Computer: 0.95, FR: 0.05

• Willdan Sustainable Schools: 0.95, FR: 0.05

• One Change: 0.60, FR: 0.40

IPA Programs

| IPA Program: | PY8 NTG | Reasoning |
|---------------------------------------|-----------|--|
| Residential | | |
| Home Energy Reports | NA | Behavioral |
| Small Business Energy Savings | 0.95 | Based upon past research on this program |
| Small Comm. HVAC Tune-Up | 0.90 | Secondary research by Navigant last year |
| CUB Energy Saver | NA | Behavioral |
| C&I | | |
| Elevate All-Electric Heat Multifamily | See Below | See values below |
| Shelton Great Energy Stewards | NA | Behavioral |

Pilot Programs for PY8:

| Pilot Program: | PY8 NTG | Reasoning |
|--|---------|---|
| CLEAResult Schools DI | TBD | |
| Matrix Demand-Based Fan Control | TBD | |
| Matrix K through 12 Private Schools | TBD | |
| NTC Middle School Take Home Kits | TBD | |
| Sodexo DCV | TBD | |
| Weidt Group New Construction | TBD | |
| Small Commercial HVAC Tune-Up | 0.90 | Evaluation research using secondary sources |
| Multi-Family Elevate DI CFL Common Areas | 0.95 | Evaluation research using secondary sources |
| Multi-Family Elevate CFL Non-Common Areas | 0.98 | Evaluation research using secondary sources |
| Multi-Family Elevate CFL Public Event | 0.62 | Evaluation research using secondary sources |
| Multi-Family Elevate Power Strip DI | 0.95 | Evaluation research using secondary sources |
| Multi-Family Elevate Programmable Thermostat | 0.95 | Evaluation research using secondary sources |
| Multi-Family Elevate Power Strip Public Event | 0.86 | Evaluation research using secondary sources |
| Multi-Family Elevate Water Measures | 0.93 | Evaluation research using secondary sources |
| Multi-Family Elev. Wall Mounted Occupancy Sensor | 0.95 | Evaluation research using secondary sources |
| Multi-Family Elevate Insulation T12 | 0.95 | Evaluation research using secondary sources |
| Multi-Family Elevate Insulation | 0.95 | Evaluation research using secondary sources |