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| ComEd Behavior - Res/IE Program Impact Evaluation Report  Energy Efficiency/Demand Response Plan:  Program Year 2024 (CY2024)  (1/1/2024-12/31/2024) | | |
| Prepared for:  ComEd  DRAFT  March 11, 2025 | | |
| Prepared by: | |  |
| Carly Olig  Guidehouse | Hannah Merriam  Opinion Dynamics |  |
|  |  |  |
|  |  |  |

**Submitted to:**

ComEd

2011 Swift Drive

Oak Brook, IL 60523

**Submitted by:**

Guidehouse Inc.

150 N. Riverside Plaza, Suite 2100

Chicago, IL 60606

**Contact:**

|  |  |  |
| --- | --- | --- |
| Charles Maglione, Partner  703.431.1983  [**cmaglione@guidehouse.com**](mailto:cmaglione@guidehouse.com) | Jeff Erickson, Director  608.616.4962  [**jeff.erickson@guidehouse.com**](mailto:jeff.erickson@guidehouse.com) | Natasha Herring, Managing Consultant  303.600.3934  **naherring@guidehouse.com** |

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# Introduction

This report presents the results of the impact evaluation of the Residential Behavior Program from the program year from January 1 to December 31, 2024 (CY2024). The program was designed to generate energy savings by providing residential customers with information about energy use and conservation strategies. Program participants receive information from regularly mailed and emailed home energy reports.

# Program Savings Detail

Table 1 summarizes the incremental energy and demand savings the Residential Behavior Program achieved in CY2024. Since the randomized control trial (RCT) design of the Residential Behavior Program inherently estimates net savings, neither the evaluation team nor the implementer estimated gross savings and there is no gross realization rate or net-to-gross ratio. Similarly, the RCT cannot identify specific measures that produce savings and so cannot calculate electrification savings, and it is based on electricity consumption and so cannot calculate savings from other fuels.

Table 1. Total Annual Incremental Electric Savings - Total

| Savings Category | Units | Ex Ante Gross Savings\* | Program Gross Realization Rate | Verified Gross Savings\* | Program Net-to-Gross Ratio (NTG) | CY2022 Net Carryover Savings | CY2023 Net Carryover Savings | Verified Net Savings† |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Electric Energy Savings - Direct‡ | kWh |  |  |  |  |  |  | 100,555,672 |
| Electric Energy Savings -  Converted from Other Fuel§ | kWh |  |  |  |  |  |  | 0 |
| Electric Energy Savings - Indirect from Electrification (electrification baseline)|| | kWh |  |  |  |  |  |  | 0 |
| Electric Energy Savings - Indirect from Electrification (efficiency baseline)|| | kWh |  |  |  |  |  |  | 0 |
| Total Electric Energy Savings# | kWh |  |  |  |  |  |  | 100,555,672 |
| Total Electric Energy Savings  Including Carryover# | kWh |  |  |  |  |  |  | N/A |
| Summer Peak\*† Demand Savings | kW |  |  |  |  |  |  | 17,356 |
| Summer Peak\*† Demand Savings   Including Carryover | kW |  |  |  |  |  |  | N/A |

All gross savings columns are intentionally blank as the RCT design inherently estimates net savings and therefore neither the evaluation team nor the implementer estimated gross savings.

N/A = not applicable (refers to a piece of data that cannot be produced or does not apply).

\* The “Ex Ante Gross Savings" and “Verified Gross Savings" in row one (Electric Energy Savings - Direct) and row seven (Summer Peak Demand Savings) exclude gross carryover savings from CY2022 and CY2023.

† The “Verified Net Savings” in row one (Electric Energy Savings - Direct) and row seven (Summer Peak Demand Savings) include net carryover savings from CY2022 and CY2023 for applicable programs.

‡ The Electric Energy Savings - Direct includes primary kWh savings from efficient measures (excluding electrification savings from both electrification and efficiency baseline), secondary kWh savings from wastewater treatment, and electric heating penalties.

|| Electrification savings excluding direct efficiency savings. Calculated from net electric savings from increase in kWh consumption and decrease in gas consumption from electrification (kWh equivalent). This row calculates savings using electrification baseline. The next row (Electric Energy Savings – Indirect from Electrification (efficiency baseline)) calculates the portion of converted electrification savings to traditional efficiency electric savings using an efficiency baseline, which can be claimable towards ComEd’s electric savings goal (applied to only midstream programs).[[1]](#footnote-2) The evaluation team determined which electrification savings are allocated toward ComEd's electrification savings goal, and which portion of electrification are converted to traditional efficiency electric savings based on analysis of portfolio-wide verified savings.

# Total Electric Energy Savings is the sum of the Electric Energy Savings - Direct, Electric Energy Savings Converted from Other Fuel, Electric Energy Savings - Indirect from Electrification (electrification baseline), and Electric Energy Savings - Indirect from Electrification (efficiency baseline). Note: This row does not include carryover gross savings, but the next row (Total Electric Savings Including Carryover) includes carryover in the gross savings, for the purpose of recalculating the gross realization rate, including carryover savings (same for the peak demand savings).

\*† The Peak Demand Savings are savings occurring at coincident Summer Peak period, defined as 1:00-5:00 PM Central Prevailing Time on non-holiday weekdays, June through August. This definition is in accordance with PJM requirements.

Source: Evaluation team analysis

Table 2 provides the detailed adjustments made to arrive at the final verified net savings for CY2024 and reports the program net realization rate. Of the modeled savings, 4% are from uplift into other ComEd energy efficiency programs, and over half (57%) are attributable to prior program years. After the uplift and persistence adjustments, the program achieved a net realization rate of 0.99.

Table 2. Total Program Net Electric Savings - Total

| Savings Category | Energy Savings (kWh) |
| --- | --- |
| Ex Ante Savings | 101,492,000 |
| Modeled Savings | 257,516,041 |
| Current Year Uplift Adjustment | (345,149) |
| Legacy Uplift Adjustment | (11,100,331) |
| Verified Unadjusted Net Savings | 246,070,561 |
| Persistence Adjustment | (145,514,890) |
| Final Verified Net Savings | 100,555,672 |
| Program Net Realization Rate | 0.99 |

Source: Evaluation team analysis

# 

# Cumulative Persisting Annual Savings

Table 3 shows the cumulative persisting annual savings (CPAS) for the measures installed in CY2024.

Table 3. CPAS – Electric

|  | | | CPAS Verified Net kWh Savings | | | |  | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Savings Category | Verified Gross Savings (kWh) | Lifetime Net Savings (kWh)† | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 |
| CY2024 Program Total Contribution to CPAS |  | 358,650,175 |  |  |  |  |  |  | 100,555,672 | 73,528,138 | 53,909,309 | 38,942,953 | 28,744,286 |
| Historic Program Total Contribution to CPAS‡ |  |  | 279,539,772 | 255,950,948 | 240,435,808 | 249,725,611 | 259,799,415 | 228,488,841 | 145,460,772 | 91,482,189 | 57,945,186 | 41,797,893 | 30,247,195 |
| Program Total CPAS |  | 358,650,175 | 279,539,772 | 255,950,948 | 240,435,808 | 249,725,611 | 259,799,415 | 228,488,841 | 246,016,444 | 165,010,327 | 111,854,495 | 80,740,846 | 58,991,481 |
| CY2024 Program Incremental Expiring Savings§ |  |  |  |  |  |  |  |  |  | 27,027,534 | 19,618,828 | 14,966,356 | 10,198,667 |
| Historic Program Incremental Expiring Savings|| |  |  |  |  |  |  |  |  | 83,028,069 | 53,978,583 | 33,537,003 | 16,147,293 | 11,550,698 |
| Program Total Incremental Expiring Savings# |  |  |  |  |  |  |  |  | 83,028,069 | 81,006,117 | 53,155,831 | 31,113,649 | 21,749,365 |

| Savings Category | Verified Gross Savings (kWh) | Lifetime Net Savings (kWh)† | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | 2037 | 2038 | 2039 |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CY2024 Program Total Contribution to CPAS |  | 358,650,175 | 21,124,567 | 15,710,084 | 11,529,339 | 8,409,325 | 6,196,502 | 0 | 0 | 0 | 0 | 0 | 0 |
| Historic Program Total Contribution to CPAS‡ |  |  | 21,918,696 | 15,731,435 | 11,301,848 | 4,948,028 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Program Total CPAS |  | 358,650,175 | 43,043,263 | 31,441,519 | 22,831,187 | 13,357,353 | 6,196,502 | 0 | 0 | 0 | 0 | 0 | 0 |
| CY2024 Program Incremental Expiring Savings§ |  |  | 7,619,719 | 5,414,484 | 4,180,745 | 3,120,013 | 2,212,823 | 6,196,502 | 0 | 0 | 0 | 0 | 0 |
| Historic Program Incremental Expiring Savings|| |  |  | 8,328,499 | 6,187,261 | 4,429,587 | 6,353,820 | 4,948,028 | 0 | 0 | 0 | 0 | 0 | 0 |
| Program Total Incremental Expiring Savings# |  |  | 15,948,218 | 11,601,745 | 8,610,332 | 9,473,833 | 7,160,851 | 6,196,502 | 0 | 0 | 0 | 0 | 0 |

| Savings Category | Verified Gross Savings (kWh) | Lifetime Net Savings (kWh)† | 2040 | 2041 | 2042 | 2043 | 2044 | 2045 | 2046 | 2047 | 2048 | 2049 | 2050 |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CY2024 Program Total Contribution to CPAS |  | 358,650,175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Historic Program Total Contribution to CPAS‡ |  |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Program Total CPAS |  | 358,650,175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| CY2024 Program Incremental Expiring Savings§ |  |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Historic Program Incremental Expiring Savings|| |  |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Program Total Incremental Expiring Savings# |  |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

All gross savings columns are intentionally blank as the RCT design inherently estimates net savings and therefore neither the evaluation team nor the implementer estimated gross savings.

† Lifetime savings are the sum of CPAS savings through the EUL.

‡ Historical savings go back to CY2018.

§ Incremental expiring savings are equal to CPAS Yn-1 - CPAS Yn.

|| Historic incremental expiring savings are equal to Historic CPAS Yn-1 – Historic CPAS Yn.

# Program total incremental expiring savings are equal to current year total incremental expiring savings plus historic total incremental expiring savings.

Source: Evaluation team analysis

1. ComEd Electrification Policy Resolutions for 2024 Final Draft. “…the ComEd Energy Efficiency portfolio will use the Electric Point of Sale baseline set by the TRM, without applying the additional electrification ratios, to claim Energy Efficiency savings from heat-pump projects through midstream programs once either of the electrification caps has been reached.” [↑](#footnote-ref-2)