

Memorandum

To: Nick Warnecke, AIC, Seth Craigo-Snell, SCS Analytics, and Elizabeth Horne, ICC Staff

From: The Opinion Dynamics Evaluation Team

Date: December 17, 2024

Re: Ameren Illinois Company Lighting Carryover Savings Claimable in 2024

This memo summarizes carryover savings claimable in 2024 from lighting distributed by Ameren Illinois Company (AIC) energy efficiency programs in prior years but not installed until 2024. The relevant initiatives include:

* Residential Program
  + Retail Products Initiative (Point of Purchase, Online Marketplace, and Efficient Choice Tool channels)
  + Kits Initiatives (School Kits, High School Innovation, Community Kits, and Food Pantry Distribution channels)
  + Income Qualified Initiative (SAVE Kits and Mobile Home Kits channels)
* Business Program
  + Midstream Initiative (Midstream Lighting channel)

#### Methods

All 2024 carryover savings are estimated primarily based on assumptions outlined in the Illinois Technical Resource Manual Version 12.0 (IL-TRM V12.0), IL-TRM V10.0, and the finalized IL-TRM V10.0 errata measures memo.[[1]](#footnote-2) Some ISR trajectories reflect installations over a three-year period, but exact trajectories vary by lamp type, application, and delivery channel. For lamps with three-year trajectories, savings are claimed the year that lamps are installed, meaning that savings from third-year installations of lamps rebated or distributed in 2022 are claimed as part of the 2024 AIC portfolio.

Table 1 below provides Retail Products Initiative LED installation trajectories by bulb type and application, highlighting installations that will occur in 2024.

Table 1. Retail Products Initiative LED Lighting ISR Trajectory

| Year of Sale | Application | Measure Category | First Year | Second Year | Third Year | Cumulative |
| --- | --- | --- | --- | --- | --- | --- |
| 2022 | Residential | Standard LED | 76.0% | 11.9% | **10.1%** | 98.0% |
| 2022 | Residential | Specialty LED | 81.5% | 8.9% | **7.6%** | 98.0% |
| 2022 | Residential | LED Nightlights | 84.0% | 7.6% | **6.4%** | 98.0% |
| 2022 | Commercial | Alla | 82.5% | 8.4% | **7.1%** | 98.0% |

a LED nightlights are assumed to be installed exclusively in residential applications and do not have associated commercial savings.

Table 2 below provides Direct Distribution Efficient Products Initiative LED installation trajectories by delivery channel, highlighting installations that will occur in 2024.

Table 2. Direct Distribution Efficient Products Initiative LED Lighting ISR Trajectory

| Year of Sale | Delivery Channel | First Year | Second Year | Third Year | Cumulative |
| --- | --- | --- | --- | --- | --- |
| 2022 | School Kits | 60.0% | 13.0% | **11.0%** | 84.0% |
| 2022 | High School Kits | 60.0% | 13.0% | **11.0%** | 84.0% |
| 2022 | Community Kits | 88.0% | 4.0% | **3.0%** | 95.0% |
| 2022 | Food Pantry Distribution – LED Nightlights | 60.0% | 13.0% | **11.0%** | 84.0% |
| 2022 | Food Pantry Distribution – All Other | 88.0% | 4.0% | **3.0%** | 95.0% |

Table 3 below provides Income Qualified Initiative LED installation trajectories by delivery channel, highlighting installations that will occur in 2024.

Table 3. Income Qualified Initiative LED Lighting ISR Trajectory

| Year of Sale | Delivery Channel | First Year | Second Year | Third Year | Cumulative |
| --- | --- | --- | --- | --- | --- |
| 2022 | Mobile Home Kits | 88.0% | 4.0% | **3.0%** | 95.0% |
| 2022 | SAVE Kits (Verified) | 88.0% | 4.0% | **3.0%** | 95.0% |
| 2022 | SAVE Kits (Unverified) | 88.0% | 4.0% | **3.0%** | 95.0% |

Table 4 below provides the Midstream Lighting Channel’s LED installation trajectories, highlighting installations that will occur in 2024.

Table 4. Midstream Initiative – Lighting Channel LED Lighting ISR Trajectory

| Year of Sale | Measure Category | First Year | Second Year | Third Year | Cumulative |
| --- | --- | --- | --- | --- | --- |
| 2023 | Linear LED | 83.1% | **8.1%** | 6.8% |  |
| 2022 | Linear LED | 83.1% | 8.1% | **6.8%** | 98.0% |
| Mogul LED | 82.5% | 8.4% | **7.1%** |
| Specialty LED |

#### Annual Savings

The Retail Products Initiative achieved 7,943 MWh and 1.04 MW in verified net carryover savings in 2024, as shown in Table 5. Income qualified participation accounts for slightly more than half of energy and demand savings from 2022 purchases.

Table 5. Retail Products Initiative Carryover Savings Claimable in 2024

| Year | Delivery Channel | Measure Category | Verified Gross Energy Savings (MWh) | Verified Gross Demand Savings (MW) | NTGR | Verified Net Energy Savings (MWh) | Verified Net Demand Savings (MW) |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 2022 | Point of Sale (Income Qualified) | Standard LED | 3,108 | 0.40 | 0.916 | 2,847 | 0.36 |
| Directional LED | 681 | 0.09 | 0.901 | 614 | 0.08 |
| Decorative LED | 842 | 0.11 | 0.883 | 743 | 0.10 |
| LED Nightlight | 33 | 0.00 | 0.998 | 33 | 0.00 |
| Point of Sale and Online Marketplace (Market Rate) | Standard LED | 3,050 | 0.39 | 0.706 | 2,153 | 0.28 |
| Directional LED | 892 | 0.12 | 0.713 | 636 | 0.08 |
| Decorative LED | 1,112 | 0.15 | 0.711 | 790 | 0.10 |
| LED Fixture | 129 | 0.03 | 0.914 | 118 | 0.03 |
| LED Outdoor Fixture | 1 | 0.00 | 0.690 | <1 | 0.00 |
| LED Nightlight | 3 | 0.00 | 0.690 | 2 | 0.00 |
| ECT (Market Rate) | LED Lighting | 9 | <0.01 | 0.676 | 6 | <0.01 |
| Total | | | 9,859 | 1.29 | 0.806 | 7,943 | 1.04 |

The Direct Distribution Efficient Products Initiative achieved 373 MWh and 0.04 MW in verified net carryover savings in 2024, as shown in Table 6.

Table 6. Direct Distribution Efficient Products Initiative Carryover Savings Claimable in 2024

| Year | Delivery Channel | Measure Category | Verified Gross Energy Savings (MWh) | Verified Gross Demand Savings  (MW) | NTGR | Verified Net Energy Savings (MWh) | Verified Net Demand Savings  (MW) |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 2022 | School Kits | Directional LED | 227 | 0.03 | 1.000 | 227 | 0.03 |
| High School Innovation | Directional LED | 50 | 0.01 | 1.000 | 50 | 0.01 |
| Community Kits | Standard LED | 21 | <0.01 | 1.000 | 21 | <0.01 |
| Food Pantry Distribution | Decorative LED | 21 | <0.01 | 1.000 | 21 | <0.01 |
| Food Pantry Distribution | Standard LED | 19 | <0.01 | 1.000 | 19 | <0.01 |
| Food Pantry Distribution | LED Nightlight | 20 | 0.00 | 1.000 | 20 | 0.00 |
| Food Pantry Distribution | Directional LED | 15 | <0.01 | 1.000 | 15 | <0.01 |
| Total |  |  | 373 | 0.04 | 1.000 | 373 | 0.04 |

The Income Qualified Initiative achieved 32 MWh and <0.01 MW in verified net carryover savings in 2024, as shown in Table 7.

Table 7. Income Qualified Initiative Carryover Savings Claimable in 2024

| Year | Delivery Channel | Measure Category | Verified Gross Energy Savings (MWh) | Verified Gross Demand Savings (MW) | NTGR | Verified Net Energy Savings (MWh) | Verified Net Demand Savings (MW) |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 2022 | Mobile Home Kit | Standard LED | 1 | <0.01 | 1.000 | 1 | <0.01 |
| Unverified SAVE Kit | Standard LED | 15 | <0.01 | 1.000 | 15 | <0.01 |
| Unverified SAVE Kit | Decorative LED | 9 | <0.01 | 1.000 | 9 | <0.01 |
| Unverified SAVE Kit | Directional LED | 7 | <0.01 | 1.000 | 7 | <0.01 |
| Verified SAVE Kit | Standard LED | 0.01 | <0.01 | 1.000 | 0.01 | <0.01 |
| Verified SAVE Kit | Decorative LED | 0.01 | <0.01 | 1.000 | 0.01 | <0.01 |
| Verified SAVE Kit | Directional LED | 0.01 | <0.01 | 1.000 | 0.01 | <0.01 |
| Total |  |  | 32 | <0.01 | 1.000 | 32 | <0.01 |

The Midstream Initiative achieved 3,235 MWh and 0.77 MW in verified net carryover savings in 2024, as shown in Table 8.

Table 8. Midstream Initiative Carryover Savings Claimable in 2024

| Year | Delivery Channel | Measure Category | Verified Gross Energy Savings (MWh) | Verified Gross Demand Savings (MW) | NTGR | Verified Net Energy Savings (MWh) | Verified Net Demand Savings (MW) |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 2022 | Midstream Lighting | Linear LED | 1,501 | 0.36 | 0.913 | 1,371 | 0.33 |
| Mogul LED | 296 | 0.07 | 0.913 | 270 | 0.06 |
| Specialty LED | 107 | 0.02 | 0.913 | 98 | 0.02 |
| 2023 | Midstream Lighting | Linear LED | 1,639 | 0.39 | 0.913 | 1,496 | 0.36 |
| Total | | | 3,543 | 0.84 | 0.913 | 3,235 | 0.77 |

#### Cumulative Persisting Annual Savings

The following tables provide cumulative persisting savings (CPAS) associated with total carryover savings and carryover savings from each Initiative.

Table 9. 2024 AIC Portfolio Carryover CPAS and WAML

| Initiative | WAML | Annual Verified Gross Savings (MWh) | NTGR | CPAS – Verified Net Savings (MWh) | | | | | | | | | | Lifetime Savings (MWh) |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2024 | | 2025 | 2026 | | 2027 | | … | 2030 | … |
| Retail Products Carryover (IQ) | 10.0 | 4,663 | 0.908 | 4,236 | | 4,236 | 4,236 | | 4,236 | |  | 4,236 |  | 39,443 |
| Retail Products Carryover (MR) | 9.4 | 5,196 | 0.713 | 3,706 | | 3,706 | 3,706 | | 3,706 | | … | 1,498 | … | 24,173 |
| Direct Distribution Carryover | 9.9 | 373 | 1.000 | 373 | | 373 | 373 | | 373 | | … | 373 | … | 3,408 |
| Income Qualified Carryover | 10.0 | 32 | 1.000 | 32 | | 32 | 32 | | 32 | | … | 32 | … | 293 |
| Midstream Lighting Carryover | 14.6 | 3,543 | 0.913 | 3,235 | | 3,235 | 3,235 | | 3,197 | | … | 3,138 | … | 43,754 |
| 2024 CPAS |  | 13,806 | 0.839 | 11,582 | | 11,582 | 11,582 | | 11,544 | | … | 9,277 | … | 111,070 |
| Expiring 2024 CPAS |  |  |  | 0 | | 0 | 0 | | 39 | | … | 119 | … |  |
| Expired 2024 CPAS |  |  |  | 0 | | 0 | 0 | | 39 | | … | 2,306 | … |  |
| WAML |  |  |  |  |  | | |  | |  |  |  |  |  |

Table 10. 2024 Retail Products Initiative Carryover CPAS and WAML (Income Qualified)

| Measure Category | Measure Life | Annual Verified Gross Savings (MWh) | NTGR | CPAS – Verified Net Savings (MWh) | | | | | | | Lifetime Savings (MWh) | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2024 | 2025 | 2026 | 2027 | … | 2030 | … |
| 2022 Standard LED - Residential IQ | 10.0 | 3,108 | 0.916 | 2,847 | 2,847 | 2,847 | 2,847 | … | 2,847 | … | 26,844 | |
| 2022 Directional LED - Residential IQ | 10.0 | 681 | 0.901 | 614 | 614 | 614 | 614 | … | 614 | … | 5,643 | |
| 2022 Decorative LED - Residential IQ | 10.0 | 842 | 0.883 | 743 | 743 | 743 | 743 | … | 743 | … | 6,696 | |
| 2022 LED Nightlight - Residential IQ | 8.0 | 33 | 0.998 | 33 | 33 | 33 | 33 | … | 33 | … | 260 | |
| 2024 CPAS |  | 4,663 | 0.908 | 4,236 | 4,236 | 4,236 | 4,236 | … | 4,236 | … | 39,443 | |
| Expiring 2024 CPAS |  |  |  | 0 | 0 | 0 | 0 | … | 0 |  |  | |
| Expired 2024 CPAS |  |  |  | 0 | 0 | 0 | 0 | … | 0 |  |  | |
| WAML | 10.0 |  |  |  |  | |  |  |  |  |  |  |

Table 10. 2024 Retail Products Initiative Carryover CPAS and WAML (Market Rate)

| Measure Category | Measure Life | Annual Verified Gross Savings (MWh) | NTGR | CPAS – Verified Net Savings (MWh) | | | | | | | Lifetime Savings (MWh) | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2024 | 2025 | 2026 | 2027 | … | 2030 | … |
| 2022 Standard LED - Residential Non-IQ | 10.0 | 2,649 | 0.690 | 1,828 | 1,828 | 1,828 | 1,828 |  | 621 |  | 11,041 | |
| 2022 Standard LED - Commercial | 5.5 | 401 | 0.812 | 325 | 325 | 325 | 325 |  | 0 |  | 1,472 | |
| 2022 Directional LED - Residential Non-IQ | 10.0 | 696 | 0.690 | 480 | 480 | 480 | 480 |  | 293 |  | 3,680 | |
| 2022 Directional LED - Commercial | 6.9 | 196 | 0.794 | 156 | 156 | 156 | 156 |  | 87 |  | 900 | |
| 2022 Decorative LED - Residential Non-IQ | 10.0 | 869 | 0.690 | 599 | 599 | 599 | 599 |  | 420 |  | 4,915 | |
| 2022 Decorative LED - Commercial | 4.7 | 243 | 0.785 | 191 | 191 | 191 | 191 | … | 0 | … | 859 | |
| 2022 LED Fixture - Commercial | 14.8 | 129 | 0.914 | 118 | 118 | 118 | 118 |  | 72 |  | 1,249 | |
| 2022 LED Outdoor Fixture - Commercial | 11.6 | 1 | 0.690 | <1 | <1 | <1 | <1 | … | <1 | … | 3 | |
| 2022 LED Nightlight - Residential Non-IQ | 8.0 | 3 | 0.690 | 2 | 2 | 2 | 2 | … | 2 | … | 15 | |
| 2022 ECT Lighting | 10.0 | 9 | 0.676 | 6 | 6 | 6 | 6 | … | 2 | … | 39 | |
| 2024 CPAS |  | 5,196 | 0.713 | 3,706 | 3,706 | 3,706 | 3,706 | … | 1,498 | … | 24,173 | |
| Expiring 2024 CPAS |  |  |  | 0 | 0 | 0 | 0 | … | 67 |  |  | |
| Expired 2024 CPAS |  |  |  | 0 | 0 | 0 | 0 | … | 2,208 |  |  | |
| WAML | 9.4 |  |  |  |  | |  |  |  |  |  |  | |

Table 11. 2024 Direct Distribution Efficient Products Initiative Carryover CPAS and WAML

| Measure Category | Measure Life | Annual Verified Gross Savings (MWh) | NTGR | CPAS – Verified Net Savings (MWh) | | | | | | | Lifetime Savings (MWh) |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2024 | 2025 | 2026 | 2027 | … | 2030 | … |
| 2022 School Kits Reflector LED | 10.0 | 227 | 1.000 | 227 | 227 | 227 | 227 | … | 227 | … | 2,090 |
| 2022 High School Kit Reflector LED | 10.0 | 50 | 1.000 | 50 | 50 | 50 | 50 | … | 50 | … | 461 |
| 2022 Community Kit Standard LED | 10.0 | 21 | 1.000 | 21 | 21 | 21 | 21 | … | 21 | … | 196 |
| 2022 Food Pantry Distribution Standard LED | 10.0 | 19 | 1.000 | 19 | 19 | 19 | 19 | … | 19 | … | 180 |
| 2022 Food Pantry Distribution Reflector LED | 10.0 | 15 | 1.000 | 15 | 15 | 15 | 15 | … | 15 | … | 137 |
| 2022 Food Pantry Distribution Specialty LED | 10.0 | 21 | 1.000 | 21 | 21 | 21 | 21 | … | 21 | … | 187 |
| 2022 Food Pantry Distribution LED Nightlights | 8.0 | 20 | 1.000 | 20 | 20 | 20 | 20 | … | 20 | … | 157 |
| 2024 CPAS |  | 373 | 1.000 | 373 | 373 | 373 | 373 | … | 373 | … | 3,408 |
| Expiring 2024 CPAS |  |  |  | 0 | 0 | 0 | 0 | … | 0 | … |  |
| Expired 2024 CPAS |  |  |  | 0 | 0 | 0 | 0 | … | 0 | … |  |
| WAML | 9.9 |  |  |  |  |  |  |  |  |  |  |

Table 12. 2024 Income Qualified Initiative Carryover CPAS and WAML

| Measure Category | Measure Life | Annual Verified Gross Savings (MWh) | NTGR | CPAS – Verified Net Savings (MWh) | | | | | | | | | | Lifetime Savings (MWh) |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2024 | | 2025 | 2026 | | 2027 | | … | 2030 | … |
| 2022 Mobile Home Kit - 9W LED | 10.0 | 1 | 1.000 | 1 | | 1 | 1 | | 1 | | … | 1 | … | 6 |
| 2022 Unverified SAVE Kit - 9W LED | 10.0 | 15 | 1.000 | 15 | | 15 | 15 | | 15 | | … | 15 | … | 141 |
| 2022 Unverified SAVE Kit - 6W LED | 10.0 | 9 | 1.000 | 9 | | 9 | 9 | | 9 | | … | 9 | … | 78 |
| 2022 Unverified SAVE Kit - 8W LED | 10.0 | 7 | 1.000 | 7 | | 7 | 7 | | 7 | | … | 7 | … | 67 |
| 2022 Verified SAVE Kit - Standard LED | 10.0 | <1 | 1.000 | <1 | | <1 | <1 | | <1 | | … | <1 | … | <1 |
| 2022 Verified SAVE Kit - Specialty LED | 10.0 | <1 | 1.000 | <1 | | <1 | <1 | | <1 | | … | <1 | … | <1 |
| 2022 Verified SAVE Kit - Reflector LED | 10.0 | <1 | 1.000 | <1 | | <1 | <1 | | <1 | | … | <1 | … | <1 |
| 2024 CPAS |  | 32 | 1.000 | 32 | | 32 | 32 | | 32 | | … | 32 | … | 293 |
| Expiring 2024 CPAS |  |  |  | 0 | | 0 | 0 | | 0 | | … | 0 | … |  |
| Expired 2024 CPAS |  |  |  | 0 | | 0 | 0 | | 0 | | … | 0 | … |  |
| WAML | 10.0 |  |  |  |  | | |  | |  |  |  |  |  |

Table 13. 2024 Midstream Initiative Carryover CPAS and WAML

| Measure Category | Measure Life | Annual Verified Gross Savings (MWh) | NTGR | CPAS – Verified Net Savings (MWh) | | | | | | | | Lifetime Savings (MWh) |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2024 | | 2025 | 2026 | 2027 | … | 2030 | … |
| 2022 Linear LED | 14.8 | 1,501 | 0.910 | 1,371 | | 1,371 | 1,371 | 1,371 | … | 1,371 | … | 20,287 |
| 2022 Mogul LED | 14.8 | 296 | 0.910 | 270 | | 270 | 270 | 270 | … | 270 | … | 3,996 |
| 2022 Specialty LED | 8.4 | 107 | 0.910 | 98 | | 98 | 98 | 98 | … | 1 | … | 563 |
| 2023 Linear LED | 14.8 | 1,639 | 0.910 | 1,496 | | 1,496 | 1,496 | 1,496 | … | 1,496 | … | 22,143 |
| 2024 CPAS |  | 3,543 | 0.910 | 3,235 | | 3,235 | 3,235 | 3,235 | … | 3,138 | … | 46,989 |
| Expiring 2024 CPAS |  |  |  | 0 | | 0 | 0 | 0 | … | 53 | … |  |
| Expired 2024 CPAS |  |  |  | 0 | | 0 | 0 | 0 | … | 97 | … |  |
| WAML | 14.6 |  |  |  |  | |  |  |  |  |  |  |

# Appendix: 2024 Midlife Adjustments for 2022 Sales

Guidance is provided in the IL-TRM V10.0 errata document that deferred installations of screw-based lamps from 2022 occurring in 2024 should use all assumptions in the IL-TRM V10.0, with the exception of the timing of the midlife adjustment. The errata document details how the timing of the midlife adjustment’s application should be modified to account for deferred installation. For ease of review, we reproduce those details in Table 14.

Table 14. Mid-Life Adjustments for Screw-Based Lamps Sold in 2022 and Installed in 2024

| Purchase Year | Lamp Type | Category | Measure Life | Install Year | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 2023 | | 2024 | |
| Year Applied | Adjustment | Year Applied | Adjustment |
| 2022 | Omnidirectional | Income Qualified | 10b | 2030 | 81% | 2031 | 81% |
| All Othersa | 10b | 2027 | 34% | 2028 | 34% |
| Decorative | Income Qualified | 10b | 2030 | 67% | 2031 | 67% |
| All Othersa | 10b | 2027 | 70% | 2028 | 70% |
| Directional | Income Qualified | 10b | 2030 | 73% | 2031 | 73% |
| All Othersa | 10b | 2027 | 61% | 2028 | 61% |

*Source: IL-TRM V10.0 errata document:* [*https://www.ilsag.info/wp-content/uploads/v10.0\_Errata\_Measures\_Memo\_FINAL\_09282022.pdf*](https://www.ilsag.info/wp-content/uploads/v10.0_Errata_Measures_Memo_FINAL_09282022.pdf)

a Including nonresidential applications.

b In residential applications. Nonresidential applications use calculated measure lives per IL-TRM V10.0.

1. Due to changes made to lighting measures in IL-TRM V11.0, the IL-TRM V10 and IL-TRM V10.0 errata memo is the final reference source for key lighting assumptions necessary for remaining carryover from certain lighting measures sold prior to 2023. [↑](#footnote-ref-2)