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Ameren Illinois Company

2023 Integrated Impact Evaluation Report

Draft

March 15, 2024

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# Executive Summary

This report presents impact evaluation results from Ameren Illinois Company’s (AIC) portfolio of energy efficiency programs implemented during the 2023 calendar year. The overarching objective of the 2023 impact evaluation is to determine the gross and net electric energy, electric demand, and natural gas impacts associated with the AIC energy efficiency portfolio. The purpose of this report is to aggregate results from AIC’s Residential, Business, and Voltage Optimization Programs and present the utility’s performance relative to electric energy savings metrics codified in Illinois state law.

Key performance metrics for the portfolio include:

* **Cumulative Persisting Annual Savings (CPAS):** Since 2018, electric energy savings goals for Illinois utilities have been primarily defined based on persisting savings as a percentage of sales. As such, annual evaluations of AIC’s electric energy efficiency programs must present both annual and persisting savings over the life of delivered measures. As a result, AIC and its program implementer have sought to deliver programs that achieve savings that persist for longer periods of time.
* **Weighted Average Measure Life (WAML):** Section 8-103B allows AIC to create a regulatory asset from all of its 8-103B expenditures and amortize and recover the total expenditures of that regulatory asset “over a period that is equal to the weighted average of the measure lives implemented for that year that are reflected in the regulatory asset.”[[1]](#footnote-1) Therefore, annual evaluations of AIC’s electric energy efficiency programs must present a WAML in accordance with the guidelines for calculation presented in the Illinois Stakeholder Advisory Group’s (SAG) WAML Report.[[2]](#footnote-2)
* **Applicable Annual Incremental Goal (AAIG):** Section 8-103B allows AIC to earn a rate of return on their electric energy efficiency spending if they create a regulatory asset, as discussed above. The rate of return that is earned can be adjusted either up or down as a function of AIC’s performance relative to its AAIG. The AAIG is defined as the difference between the cumulative persisting electric savings goal for the year being evaluated and the cumulative persisting electric savings goal for the previous year. AIC must achieve sufficient savings through its programs to replace savings from measures at the end of their measure life before progress can be counted toward the AAIG. Therefore, annual evaluations of AIC’s electric energy efficiency programs must assess AIC’s performance against its AAIG.

Overview of the AIC Portfolio

AIC’s 2023 portfolio is made up of three programs: the Residential Program, the Business Program, and the Voltage Optimization Program. The Residential and Business Programs are split into a number of initiatives, organized in our evaluations as detailed below:

* Residential Program
  + Retail Products Initiative
  + Income Qualified Initiative – Single Family Offerings
  + Multifamily Initiatives
  + Market Rate Single Family Initiative
  + Kits Initiatives
* Business Program
  + Standard Initiative
  + Custom Initiative
  + Retro-Commissioning (RCx) Initiative
  + Streetlighting Initiative
  + Small Business Initiative
  + Midstream Initiative
* Voltage Optimization Program

Individual Residential and Business Program initiatives are further split into channels. For more details on the Residential and Business Programs, please see the *2023 AIC Residential Program Annual Impact Evaluation Report* and the *2023 AIC Business Program Annual Impact Evaluation Report*. Note that to best serve AIC and stakeholders, we have considered the delivery strategy and unique characteristics for each AIC offering at the Initiative and channel level and have organized our evaluation activities to most effectively use evaluation resources, minimize customer touchpoints, and optimize research insights. As a result of organizational choices made in this process, evaluation reporting for the Residential Program is not organized in a way that perfectly aligns with formal portfolio organization. For further details on where this report differs in its reporting from AIC’s portfolio organization, please see the *2023 AIC Residential Program Annual Impact Evaluation Report*.

AIC has a specific focus on serving low income customers through its residential energy efficiency programs. While the Income Qualified Initiative focuses entirely on these customers, most of AIC’s other residential efforts also direct a significant portion of their services to low income customers. Most notably, the majority of the savings achieved by Retail Products Initiative in 2023 were in delivery of measures to low income customers. In addition, two of the three components of the Multifamily Initiatives (the Income Qualified channel of the Multifamily Initiative as well as the Public Housing Initiative) deliver services to only low income customers, and all channels of the Kits Initiatives are focused entirely on low income customers as well.

### 2023 Portfolio Performance

Overall, the portfolio’s savings are driven heavily by a small number of initiatives. The Residential Program’s Retail Products Initiative (including the Income Qualified Initiative – Retail Products channel), the Voltage Optimization Program, and the Business Program’s Small Business Initiative together provided two-thirds (67%) of portfolio verified net electric energy savings in 2023. Figure 1 shows 2023 portfolio verified net electric energy savings by initiative.

Figure 1. 2023 AIC Portfolio Verified Net Electric Energy Savings by Initiative

A diagram of different types of pies

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Gas savings are similarly concentrated. Three initiatives (The Business Program’s Standard Initiative and the Residential Program’s Retail Products and Income Qualified – Single Family Initiatives) provided over three-quarters of portfolio gas savings in 2023. Figure 2 shows portfolio verified net gas savings by initiative.

Figure 2. 2023 AIC Portfolio Verified Net Gas Savings by Initiative

A diagram of a customer market

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As discussed above, the majority of AIC’s residential program offerings are focused on low-income customers. Figure 3 presents a chart of AIC portfolio savings that breaks out Residential Program savings by market rate vs. low income to provide a better picture of the degree to which AIC’s portfolio delivered energy savings to low-income customers. Over one third of AIC’s total 2023 portfolio savings are realized by low-income customers.

Figure 3. 2023 AIC Portfolio Verified Net Savings by Sector

A diagram of a cost of gas

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Note that Figure 3 understates the extent to which AIC’s electric programs delivered energy savings to low-income customers in 2023. As discussed in greater depth in the *2023 AIC Voltage Optimization Program Annual Impact Evaluation Report,* AIC has prioritized low-income customers as part of its VO deployment. While our evaluation is unable to explicitly apportion savings to low-income customers from the Voltage Optimization Program, as a distribution circuit-level improvement, a share of the savings realized by the Program are realized by low-income customers.

## 2023 Portfolio Savings

Overall, AIC’s portfolio outperformed its 2023 goals. The portfolio achieved 132% of its AAIG and 109% of its CPAS target. The portfolio WAML is 12.3 years, which is a slight decrease compared to the 2022 portfolio, which had a WAML of 12.6 years.

### Annual Savings

Table 1 presents annual savings achieved by the 2023 AIC portfolio. Savings conversions are discussed further in Section 3.1. The calculation of residential nonparticipant spillover (NPSO) is discussed further in Section 2.3.1.

Table 1. 2023 AIC Portfolio Annual Savings

|  | Energy Savings (MWh) | Peak Demand Savings (MW) | Gas Savings (Therms) |
| --- | --- | --- | --- |
| Ex Ante Gross Savings | 434,427 | 52.78 | 5,937,521 |
| Gross Realization Ratea | 102% | 99% | 100% |
| Verified Gross Savings | 462,610 | 67.59 | 5,975,133 |
| NTGR | 0.904 | 0.899 | 0.815 |
| Verified Net Savings Before Residential NPSO and Conversions | 418,002 | 60.77 | 4,868,514 |
| Verified Net Savings with NPSO Adder | 419,052 | 60.94 | 4,920,443 |
| (b-25) Conversions - AIC Gas | 18,981 | N/A | -647,815 |
| (b-25) Conversions - Other Fuelsb | 19,130 | N/A | N/A |
| Verified Net Savings After Conversion | 457,163 | 60.94 | 5,568,258 |

a Calculations of gross realization rate exclude categories of savings with no corresponding ex ante savings. Therefore, gross realization rates cannot be directly calculated from values presented in this table.

b AIC converted natural gas and propane savings that were not eligible to be claimed against its gas savings goals in 2023. For further detail, see the *2023 AIC Residential Program Annual Impact Evaluation Report* and the *2023 AIC Business Program Annual Impact Evaluation Report*.

### Applicable Annual Incremental Goal Achievement

AIC achieved 132% of its 2023 AAIG for electric savings. 2023 AAIG achievement is presented in Table 4.

Table 2. 2023 AIC Portfolio AAIG Achievement

| Metric | MWh |
| --- | --- |
| 2023 Annual Net Savings | 457,163 |
| 2023 Expiring CPAS from Legislation | 125,202 |
| 2023 Expiring CPAS from 2022 Portfolio | 0 |
| 2023 Expiring CPAS from 2021 Portfolio | 908 |
| 2023 Expiring CPAS from 2020 Portfolio | 4,849 |
| 2023 Expiring CPAS from 2019 Portfolio | 7,489 |
| 2023 Expiring CPAS from 2018 Portfolio | 3,603 |
| 2023 Annual Incremental Savings Achieved | 315,113 |
| 2023 AAIG | 239,060 |
| % of 2023 AAIG Achieved | 132% |

### Cumulative Persisting Annual Savings

Table 3 summarizes overall CPAS and WAML for the 2023 AIC portfolio by program. The overall WAML for the portfolio is 12.7 years including Voltage Optimization and 12.3 years excluding Voltage Optimization. Additional detail on CPAS achieved by the portfolio is available in Appendix C.

Table 3. 2023 AIC Portfolio CPAS and WAML

| Program | WAML | Annual Verified Gross Savings (MWh) | NTGR | CPAS – Verified Net Savings (MWh) | | | | | | | | | | Lifetime Savings (MWh) |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2023 | | 2024 | 2025 | | 2026 | | … | 2030 | … |
| Residential | 9.8 | 225,443 | 0.888 | 200,177 | | 200,177 | 195,500 | | 195,500 | | … | 75,867 | … | 1,880,663 |
| Business | 15.1 | 198,569 | 0.874 | 173,570 | | 173,567 | 173,354 | | 169,999 | | … | 158,695 | … | 2,549,853 |
| Voltage Optimization | 15.0 | 83,416 | N/A | 83,416 | | 83,416 | 83,416 | | 83,416 | | … | 83,416 | … | 1,251,236 |
| 2023 CPAS |  | 507,429 | 0.901 | 457,163 | | 457,160 | 452,270 | | 448,916 | | … | 317,977 | … | 5,681,752 |
| Expiring 2023 CPAS |  |  |  | 0 | | 4 | 4,890 | | 3,354 | | … | 104,800 | … |  |
| Expired 2023 CPAS |  |  |  | 0 | | 4 | 4,893 | | 8,248 | | … | 139,186 | … |  |
| WAML | 12.7 |  |  |  |  | | |  | |  |  |  |  |  |
| WAML without VO | 12.3 |  |  |  |  | | |  | |  |  |  |  |  |

### Cumulative Persisting Annual Savings Goal Achievement

AIC achieved 109% of its 2023 CPAS goal for electric savings. 2023 CPAS achievement is presented in Table 4.

Table 4. 2023 AIC Portfolio CPAS Goal Achievement

| Metric | MWh |
| --- | --- |
| 2023 CPAS from 2023 Portfolio | 457,163 |
| 2023 CPAS from 2022 Portfolio | 457,406 |
| 2023 CPAS from 2021 Portfolio | 451,086 |
| 2023 CPAS from 2020 Portfolio | 436,173 |
| 2023 CPAS from 2019 Portfolio | 295,406 |
| 2023 CPAS from 2018 Portfolio | 303,800 |
| 2023 CPAS from Legislation | 912,102 |
| 2023 CPAS Achieved | 3,313,137 |
| 2023 CPAS Goal | 3,045,376 |
| % of 2023 CPAS Goal Achieved | 109% |

# Evaluation Approach

The following section of the report describes the evaluation approach taken for the impact evaluation of the 2023 AIC portfolio. As part of the evaluation process, the evaluation team applied versions of the Illinois Energy Efficiency Policy Manual and the Illinois Technical Reference Manual (IL-TRM) applicable to the 2023 program year (Versions 2.1 and 3.0, and Version 11.0 [V11.0], respectively) wherever relevant.[[3]](#footnote-3)

## Research Objectives

The overarching research objectives for the impact evaluation of AIC’s 2023 energy efficiency programs are as follows:

* Estimate the estimated gross energy and demand impacts from the portfolio.
* Estimate the net energy and demand impacts from the portfolio.

The evaluation team met these objectives by conducting the impact evaluation activities listed in Table 5. As shown, for most initiatives, the impact evaluation primarily consisted of applying savings algorithms from the IL-TRM V11.0 to final initiative tracking databases to estimate verified gross savings. In addition, we reviewed initiative materials and interviewed initiative managers.

Table 5. 2023 Impact Evaluation Activities

| Program | Initiative | Gross Impacts | | | | Net Impacts |
| --- | --- | --- | --- | --- | --- | --- |
| IL-TRM Application Review | Engineering Desk Reviews | On-Site Measurement and Verification (M&V) | Consumption Analysis | Application of SAG-Approved NTGRs |
| Residential Program | Retail Products Initiative | ü |  |  |  | ü |
| Income Qualified Initiative  – Single Family Offerings | ü |  |  |  | ü |
| Multifamily Initiatives | ü |  |  |  | ü |
| Market Rate Single Family Initiative | ü |  |  |  | ü |
| Kits Initiatives | ü |  |  |  | ü |
| Business Program | Standard Initiative | ü | ü |  |  | ü |
| Custom Initiative |  | ü | ü | ü | ü |
| Retro-Commissioning Initiative |  |  |  | ü | ü |
| Streetlighting Initiative | ü |  |  |  | ü |
| Small Business Initiative | ü | ü |  |  | ü |
| Midstream Initiative | ü |  |  |  | ü |
| Voltage Optimization Program | | ü |  |  | ü | ü |

The following sections provide further detail on the verified gross and net impact evaluation activities.

## Verified Gross Impact Analysis Approach

### Application of IL-TRM V11.0

To determine verified gross impacts associated with the majority of the measures delivered through the 2023 AIC portfolio, we reviewed the content of the initiative tracking database to identify database errors and duplicate records, and to ensure that the implementer correctly applied savings algorithms and assumptions stated in the IL-TRM V11.0 and the IL-TRM V11.0 errata document. In particular, we applied the algorithms and assumptions provided in the IL-TRM V11.0, while using project-specific data from the initiative tracking databases as inputs where appropriate. As part of this process, we also verified measure installations through analysis of initiative tracking databases, as well as through the review of supporting project documentation.

### Application of Custom Impact Methods

The Custom and RCx initiatives and a small number of Standard Initiative measures are not suitable for gross impact analysis solely using the IL-TRM. These initiatives require custom energy savings calculations to determine some or all gross impacts. Further details on the custom impact methods applied for these initiatives are presented in the *2023 AIC Business Program Annual Impact Evaluation Report*.

### Carryover Savings

In addition to savings achieved by AIC’s portfolio through measures delivered during the 2023 program year, AIC also claimed savings in 2023 from lighting measures distributed by the portfolio in prior years but not installed until 2023. The relevant initiatives include:

* Residential Program
  + 2021 and 2022 Retail Products Initiative
  + 2021 and 2022 Income Qualified Initiative
  + 2021 and 2022 Kits Initiatives
* Business Program
  + 2021 and 2022 Midstream Initiative

Carryover savings are evaluated using the applicable net-to-gross ratio (NTGR) and in-service rate (ISR) trajectory assumption based on the year in which the product was sold, the applicable measure life and midlife adjustments as detailed in the IL-TRM V10.0 errata memo,[[4]](#footnote-4) and IL-TRM V11.0 assumptions for all other relevant impact parameters. We reported on AIC’s 2023 carryover savings as part of an earlier memo.[[5]](#footnote-5)

## Verified Net Impact Analysis Approach

To determine verified net savings for the 2023 AIC portfolio, we applied SAG-approved NTGRs[[6]](#footnote-6) to verified gross savings.

### Residential Non-Participant Spillover

Net impact evaluation of AIC’s Residential Program includes a non-participant spillover (NPSO) adder to net savings achieved by non-income qualified (non-IQ) efforts. This NPSO adder is 3.1% for non-IQ electric savings (energy and demand) and 4.4% for non-IQ gas savings.[[7]](#footnote-7) Table 6 summarizes verified, non-IQ net savings for AIC’s Residential Program by initiative and computes the NPSO adder as defined above.

Table 6. 2023 Residential Program Verified Net Savings Summary for Non-Income Qualified Initiatives

| Initiative/Channel | Verified Net MWh | Verified Net MW | Verified Net Therms |
| --- | --- | --- | --- |
| Retail Products – Incentive-Based Channels (non-IQ) | 16,159 | 3.14 | 865,222 |
| Efficient Choice Tool | 374 | 0.06 | 29,321 |
| Retail Products Carryover (non-IQ) | 6,264 | 0.82 | N/A |
| Market Rate Multifamily | 2,413 | 0.36 | 8,581 |
| Midstream HVAC | 8,612 | 1.17 | 262,076 |
| Home Efficiency | 69 | 0.03 | 14,983 |
| Non-IQ Residential Program Subtotal | 33,892 | 5.58 | 1,180,183 |
| Residential NPSO Adder | 1,051 | 0.17 | 51,928 |

## Sources and Mitigation of Error

The evaluation team took steps to mitigate potential sources of error throughout the planning and implementation of the 2023 evaluation. In particular, we considered the below types of error:

* **Analysis Error:**
  + **Prescriptive Gross Impact Calculations:** We calculated gross impacts by applying IL-TRM V11.0 calculations to the participant data in the tracking database. To minimize data analysis error, a separate team member reviewed all calculations to verify their accuracy.
  + **Custom Gross Impact Calculations:** We determined custom gross impacts using desk reviews and data collected during on-site M&V. To minimize data analysis errors, we had all calculations reviewed by a separate team member to verify that calculations were performed accurately.
  + **Net Impact Calculations:** We derived net impacts by applying SAG-approved NTGRs to estimated gross impacts. To minimize analytical errors, all calculations were reviewed by a separate team member to verify their accuracy.
* **Sampling Error:**
  + **Custom Initiative Impact Sample:** The evaluation team completed an impact review for 48 of 117 Custom Incentives projects achieving savings in 2023, drawing three waves of stratified samples separately for projects claiming electric and gas savings. For gross impact results, at the 90% confidence level, we achieved a relative precision of 5.9% for electric energy savings, 19.4% for electric demand savings, and 0.7% for gas savings. We also completed impact reviews for seven of 22 New Construction Lighting projects achieving savings in 2023, drawing a single stratified sample. For gross impact results, at the 90% confidence level, we achieved a relative precision of 8.2% for electric energy savings and 3.3% for electric demand savings. Further detail on our methodology for Custom Initiative sampling is provided in the *2023 AIC Business Program Impact Evaluation Report*.
* **Non-Sampling Error:**
  + **Measurement Error:** To minimize data collection error during on-site M&V, the evaluation team used trained engineers and technicians familiar with the equipment covered by the Custom Initiative and with the methods used to calculate the gross impacts.

For the VCx channel and Virtual SEM pilot, we also addressed the following types of error:

* **Errors Due to Presence of Non-Routine Events:** “Non-routine events” (NREs) refer to changes in facility energy consumption resulting from facility-related changes not related to the interventions recommended through the channel. NREs can make it difficult to accurately measure savings using meter-based approaches, including the approach used for VCx and Virtual SEM. The evaluation team accounted for NREs in our modeling approach by removing data for the affected period and/or extending the baseline back in time accordingly, consistent with International Performance Measurement and Verification Protocol (IPMVP) Non-Routine Adjustment Options 1 and 3, respectively.[[8]](#footnote-8)
* **Model Specification Error:** In this type of error, variables that predict model outcomes are left out when they should be included, which can produce biased estimates. The models used to estimate ex ante impacts in 2023 excluded weather interaction terms despite the weather-sensitive nature of the interventions, such as HVAC scheduling adjustments. The evaluation team addressed this type of error by modifying the facility-level models in cases where the inclusion of weather interactions improved model fit, before producing verified savings. We also recommended that the implementation team take this approach in future years or provide documentation on their model selection process and rationale for excluding these terms.
* **Measurement Error:** In the context of the VCx channel and Virtual SEM pilot, measurement error occurs when utility electric meters do not accurately record the true energy consumption of a facility. In practice, little can be done in an evaluation context to mitigate this error. However, we know from experience that this type of error is expected to be small and not to have a significant bearing on modeling.
* **Prediction Error:** Prediction error occurs when the model does not perfectly predict what future energy consumption will be. We did not receive a full year of post-period data for all VCx and Virtual SEM projects in 2023, which introduces uncertainty because the models were not able to train on a full range of temperature data after the intervention was initiated. This could increase the prediction error for temperatures that are outside the range of the training data. We addressed this by carefully examining model fit diagnostics.
* **Multicollinearity:** This type of modeling error can both bias the model results and produce very large variance in the results. We addressed this issue by carefully considering model specifications and data to ensure that there were no multicollinearity issues.

Finally, calculations in some of the tables in this report cannot be exactly reproduced due to rounding.

# Portfolio Verified Savings

## Savings Conversions

In certain circumstances, Illinois state law allows electric utilities to claim energy savings achieved from fossil fuels against their AAIG and CPAS goals. We refer to these savings as “conversions.” There are two separate types of conversions that Illinois electric utilities may make:

* **Subsection (b-25) conversions.**[[9]](#footnote-9)We refer to these conversions as “(b-25) conversions” throughout this report. Under subsection (b-25), Illinois state law allows electric utilities to convert fossil fuel savings achieved through energy efficiency programs funded with electric dollars to electric energy savings on an equivalent British thermal unit (Btu) basis for the premises in certain situations. There is an annual cap on (b-25) conversions; no more than 10% of the electric utility’s applicable annual total savings requirement (AATS) may be met via (b-25) conversions each year. For AIC, these conversions can include natural gas provided by AIC (savings of which could also be counted toward AIC’s 8-104 goals) and natural gas not provided by AIC or delivered fuels such as propane (savings of which could not be counted toward AIC’s 8-104 goals).
* **Subsection (b-27) conversions.**[[10]](#footnote-10) We refer to these conversions as “(b-27) conversions” throughout this report. Under subsection (b-27), Illinois state law allows electric utilities to offer and promote measures that electrify enduses that would otherwise be served by combustion of fossil fuel at the premises, provided that the electrification measures reduce total energy consumption at the premises. When these measures are offered, the electric utility may count net Btu savings achieved at the premises[[11]](#footnote-11) in kWh toward its electric savings goals. There is an annual cap on (b-27) conversions; in 2023, no more than 5% of the electric utility’s AATS may be met via (b-27) conversions. In addition, a minimum of 25% of all electrification savings counted toward the utility’s goals each year must be from electrification of enduses in low-income housing.

### (b-25) Conversions

In 2023, AIC identified savings achieved by a number of initiatives for (b-25) conversions. Per Illinois state law, AIC was capped at a total conversion of no more than 38,111 MWh. Using the SAG-approved conversion factor of 29.3 kWh per therm, this equals 1,300,720 therms that could be converted to electric savings. After evaluation, we determined that savings identified for conversion by AIC were in excess of the conversion cap, and therefore we prioritized savings for conversion in line with legislation and AIC guidance. Table 7 presents a summary of AIC’s 2023 (b-25) savings conversions.

Table 7. 2023 AIC (b-25) Conversions

| Initiative | Channel | AIC Gas Therms Converted | Non-AIC Gas Therms Converted | Propane Therms Converted | MWh Equivalent |
| --- | --- | --- | --- | --- | --- |
| Retail Products | Market Rate | 0 | 0 | 57,003 | 1,670 |
| Income Qualified | Retail Products | 0 | 0 | 19,939 | 584 |
| Income Qualified | Single Family | 205,688 | 855 | 0 | 6,052 |
| Income Qualified | CAA | 0 | 223 | 0 | 7 |
| Income Qualified | Smart Savers | 402,336 | 114 | 9,755 | 12,078 |
| Income Qualified | Joint Utility | 0 | 3,663 | 0 | 107 |
| Income Qualified | MHAS | 39,791 | 0 | 0 | 1,166 |
| Kits | Joint Utility | 0 | 464 | 0 | 14 |
| Standard | SE | 0 | 10,372 | 0 | 304 |
| Standard | STRR | 0 | 11,829 | 0 | 347 |
| Custom | Custom Incentives | 0 | 536,074 | 0 | 15,707 |
| Small Business | SBEP | 0 | 2,614 | 0 | 77 |
| Total | | 1,300,720 | | | 38,111 |
| *Conversion Cap* | | *1,300,720* | | | *38,111* |
| *% of Cap* | | *100.0%* | | | *100.0%* |

### (b-27) Conversions

AIC made no (b-27) conversions in 2023.

## 2023 Residential Program Annual Savings

The 2023 Residential Program achieved 200,177 MWh, 24.90 MW, and 2,445,434 therms in verified net savings. These savings include a non-participant spillover (NPSO) “adder” to net savings.[[12]](#footnote-12),[[13]](#footnote-13) These savings also include (b-25) conversions of fuels not provided by AIC, which are detailed further in Section 3.1.1 above. Table 8, Table 9, and Table 10 present ex ante gross, verified gross, and verified net electric energy, electric demand, and gas savings, by Initiative and channel, for the 2023 Residential Program.

Table 8. 2023 Residential Program Electric Energy Annual Savings Summary

| Initiative/Channel | Ex Ante Gross MWh | Gross Realization Rate | Verified Gross MWh | Net-to-Gross Ratio (NTGR) | Verified Net MWh |
| --- | --- | --- | --- | --- | --- |
| Retail Products – Income Qualified | 121,109 | 100% | 121,418 | 0.898 | 109,002 |
| Retail Products – Market Rate Incentive-Based | 20,675 | 98% | 20,294 | 0.796 | 16,159 |
| Retail Products – Efficient Choice Tool | N/A | N/A | 562 | 0.666 | 374 |
| Retail Products – Income Qualified Carryover | N/A | N/A | 7,557 | 0.919 | 6,941 |
| Retail Products – Market Rate Carryover | N/A | N/A | 8,799 | 0.712 | 6,264 |
| Income Qualified – Single Family | 3,106 | 101% | 3,123 | 1.000 | 3,123 |
| Income Qualified - CAA | 1,111 | 99% | 1,101 | 1.000 | 1,101 |
| Income Qualified – Joint Utility | 105 | 100% | 105 | 1.000 | 105 |
| Income Qualified – Smart Savers | 4,942 | 97% | 4,807 | 0.999 | 4,804 |
| Income Qualified – MHAS | 183 | 147% | 269 | 1.000 | 269 |
| Income Qualified – Carryover | N/A | N/A | 737 | 1.000 | 737 |
| Multifamily – Income Qualified | 8,128 | 94% | 7,643 | 1.000 | 7,643 |
| Multifamily – Market Rate | 2,752 | 100% | 2,750 | 0.878 | 2,413 |
| Multifamily – Public Housing | 1,266 | 94% | 1,194 | 1.000 | 1,194 |
| Market Rate Single Family – Midstream HVAC | 12,280 | 100% | 12,280 | 0.701 | 8,612 |
| Market Rate Single Family – Home Efficiency | 83 | 99% | 82 | 0.834 | 69 |
| Kits – School Kits | 4,082 | 123% | 5,027 | 1.000 | 5,027 |
| Kits – High School Innovation | 713 | 111% | 793 | 1.000 | 793 |
| Kits – Mobile Home Kits | 1,330 | 100% | 1,330 | 1.000 | 1,330 |
| Kits – Income Qualified Community Kits | 156 | 103% | 161 | 1.000 | 161 |
| Kits – Joint Utility Kits | 87 | 99% | 87 | 1.000 | 87 |
| Kits – Carryover | N/A | N/A | 1,245 | 0.996 | 1,240 |
| *Residential Program Subtotal* | *182,109* | *100%a* | *201,364* | *0.881* | *177,450* |
| Residential NPSO Adder |  |  |  |  | 1,051 |
| (b-25) Conversions - AIC Gas |  |  |  |  | 18,981 |
| (b-25) Conversions - Non-AIC Gas |  |  |  |  | 156 |
| (b-25) Conversions - Propane |  |  |  |  | 2,540 |
| Residential Program Total |  |  |  |  | 200,177 |

a Calculations of gross realization rate at the Residential Program level exclude categories of savings with no ex ante savings.

Table 9. 2023 Residential Program Electric Demand Annual Savings Summary

| Initiative/Channel | Ex Ante Gross MW | Gross Realization Rate | Verified Gross MW | NTGR | Verified Net MW |
| --- | --- | --- | --- | --- | --- |
| Retail Products – Income Qualified | 15.10 | 99% | 14.98 | 0.900 | 13.47 |
| Retail Products – Market Rate Incentive-Based | 4.21 | 97% | 4.07 | 0.770 | 3.14 |
| Retail Products – Efficient Choice Tool | N/A | N/A | 0.09 | 0.667 | 0.06 |
| Retail Products – Income Qualified Carryover | N/A | N/A | 0.98 | 0.807 | 0.80 |
| Retail Products – Market Rate Carryover | N/A | N/A | 1.15 | 0.807 | 0.93 |
| Income Qualified – Single Family | 0.87 | 101% | 0.87 | 1.000 | 0.87 |
| Income Qualified - CAA | 0.26 | 97% | 0.25 | 1.000 | 0.25 |
| Income Qualified – Joint Utility | 0.04 | 100% | 0.04 | 1.000 | 0.04 |
| Income Qualified – Smart Savers | 1.33 | 92% | 1.23 | 0.999 | 1.22 |
| Income Qualified – MHAS | 0.05 | 231% | 0.11 | 1.000 | 0.11 |
| Income Qualified – Carryover | N/A | N/A | 0.09 | 1.000 | 0.09 |
| Multifamily – Income Qualified | 0.84 | 99% | 0.84 | 1.000 | 0.84 |
| Multifamily – Market Rate | 0.41 | 102% | 0.42 | 0.864 | 0.36 |
| Multifamily – Public Housing | 0.15 | 112% | 0.17 | 1.000 | 0.17 |
| Market Rate Single Family – Midstream HVAC | 1.68 | 100% | 1.68 | 0.700 | 1.17 |
| Market Rate Single Family – Home Efficiency | 0.04 | 100% | 0.04 | 0.842 | 0.03 |
| Kits – School Kits | 0.62 | 116% | 0.72 | 1.000 | 0.72 |
| Kits – High School Innovation | 0.10 | 111% | 0.11 | 1.000 | 0.11 |
| Kits – Income Qualified Community Kits | 0.17 | 100% | 0.17 | 1.000 | 0.17 |
| Kits – Mobile Home Kits | 0.02 | 102% | 0.02 | 1.000 | 0.02 |
| Kits – Joint Utility Kits | 0.01 | 101% | 0.01 | 1.000 | 0.01 |
| Kits – Carryover | N/A | N/A | 0.14 | 0.996 | 0.14 |
| *Residential Program Subtotal* | *25.90* | *99%a* | *28.17* | *0.878* | *24.72* |
| Residential NPSO Adder |  |  |  |  | 0.18 |
| Residential Program Total |  |  |  |  | 24.90 |

a Calculations of gross realization rate at the Residential Program level exclude categories of savings with no ex ante savings.

Table 10. 2023 Residential Program Gas Annual Savings Summary

| Initiative/Channel | Ex Ante Gross Therms | Gross Realization Rate | Verified Gross Therms | NTGR | Verified Net Therms |
| --- | --- | --- | --- | --- | --- |
| Retail Products – Income Qualified | 500,708 | 103% | 513,555 | 1.000 | 513,555 |
| Retail Products – Market Rate Incentive-Based | 982,688 | 98% | 965,353 | 0.896 | 865,222 |
| Retail Products – Efficient Choice Tool | N/A | N/A | 48,623 | 0.603 | 29,321 |
| Income Qualified – Single Family | 387,406 | 100% | 387,663 | 1.000 | 387,663 |
| Income Qualified - CAA | 112,071 | 101% | 112,999 | 1.000 | 112,999 |
| Income Qualified – Joint Utility | N/A | N/A | N/A | N/A | N/A |
| Income Qualified – Smart Savers | 487,592 | 96% | 468,036 | 1.000 | 467,813 |
| Income Qualified – MHAS | 54,178 | 95% | 51,317 | 1.000 | 51,317 |
| Multifamily – Income Qualified | 89,536 | 100% | 89,674 | 1.000 | 89,674 |
| Multifamily – Market Rate | 9,304 | 100% | 9,304 | 0.922 | 8,581 |
| Multifamily – Public Housing | 41,101 | 100% | 41,102 | 1.000 | 41,102 |
| Market Rate Single Family – Midstream HVAC | 323,915 | 100% | 324,132 | 0.809 | 262,076 |
| Market Rate Single Family – Home Efficiency | 18,217 | 100% | 18,221 | 0.822 | 14,983 |
| Kits – School Kits | 105,035 | 127% | 133,530 | 1.000 | 133,530 |
| Kits – High School Innovation | 17,452 | 120% | 20,867 | 1.000 | 20,867 |
| Kits – Income Qualified Community Kits | 40,889 | 98% | 40,266 | 1.000 | 40,266 |
| Kits – Mobile Home Kits | 2,021 | 116% | 2,344 | 1.000 | 2,344 |
| Kits – Joint Utility Kits | 0 | N/A | 7 | 1.000 | 7 |
| *Residential Program Subtotal* | *3,172,113* | *100%a* | *3,226,995* | *0.942* | *3,041,321* |
| Residential NPSO Adder |  |  |  |  | 51,928 |
| (b-25) Conversions – AIC Gas |  |  |  |  | -647,815 |
| Residential Program Total |  |  |  |  | 2,445,434 |

a Calculations of gross realization rate at the Residential Program level exclude categories of savings with no ex ante savings.

## 2023 Business Program Annual Savings

The 2023 Business Program achieved 173,570 MWh, 22.95 MW, and 1,827,193 therms in verified net savings. These savings include (b-25) conversions of fuels not provided by AIC, which are detailed further in Section 3.1.1 above. Table 11, Table 12, and Table 13 present ex ante gross, verified gross, and verified net electric energy, electric demand, and gas savings, by initiative and channel, for the 2023 Business Program.

Table 11. 2023 Business Program Electric Energy Annual Savings Summary

| Initiative/Channel | Ex Ante Gross MWh | Gross Realization Rate | Verified Gross MWh | Net-to-Gross Ratio (NTGR) | Verified Net MWh |
| --- | --- | --- | --- | --- | --- |
| Standard - Core | 29,570 | 99% | 29,351 | 0.825 | 24,206 |
| Standard - OS | 2,542 | 96% | 2,430 | 0.928 | 2,256 |
| Standard - BOC Training | 819 | 88% | 724 | N/A | 724 |
| Custom - Custom Incentives | 21,975 | 89% | 19,604 | 0.786 | 15.413 |
| Custom - New Construction Lighting | 2,100 | 97% | 2,039 | 0.786 | 1,603 |
| RCx - VCx | 5,597 | 94% | 5,247 | 0.930 | 4,880 |
| RCx – Virtual SEM | 44 | 87% | 38 | 1.000 | 38 |
| Streetlighting - MOSL | 133 | 100% | 133 | 0.690 | 92 |
| Streetlighting - UOSL | 19,917 | 100% | 19,917 | 1.000 | 19,917 |
| Small Business - SBDI | 61,903 | 100% | 61,906 | 0.891 | 55,159 |
| Small Business - SBEP | 711 | 46% | 327 | 0.891 | 291 |
| Midstream - Lighting | 29,202 | 101% | 29,577 | 0.913 | 27,010 |
| Midstream - HVAC | 215 | 97% | 207 | 0.884 | 183 |
| Midstream - Food Service | 590 | 101% | 594 | 0.800 | 475 |
| Midstream - Lighting Carryover | 5,735 | 100% | 5,735 | 0.853 | 4,890 |
| Business Program Subtotal | *181,053* | *98%* | *177,830* | *0.884* | *157,136* |
| (b-25) Conversions – Non-AIC Gas |  |  |  |  | 16,434 |
| Business Program Total |  |  |  |  | 173,570 |

Table 12. 2023 Business Program Electric Demand Annual Savings Summary

| Initiative/Channel | Ex Ante Gross MW | Gross Realization Rate | Verified Gross MW | NTGR | Verified Net MW |
| --- | --- | --- | --- | --- | --- |
| Standard - Core | 4.83 | 100% | 4.81 | 0.827 | 3.98 |
| Standard - OS | 0.62 | 89% | 0.56 | 0.886 | 0.49 |
| Standard - BOC Training | 0.01 | 884% | 0.08 | N/A | 0.08 |
| Custom - Custom Incentives | 2.69 | 91% | 2.45 | 0.786 | 1.93 |
| Custom - New Construction Lighting | 0.37 | 90% | 0.33 | 0.786 | 0.26 |
| RCx - VCx | 0.00 | N/A | 0.00 | N/A | 0.00 |
| RCx – Virtual SEM | 0.00 | N/A | 0.00 | N/A | 0.00 |
| Streetlighting - MOSL | 0.00 | N/A | 0.00 | N/A | 0.00 |
| Streetlighting - UOSL | 0.00 | N/A | 0.00 | N/A | 0.00 |
| Small Business - SBDI | 9.72 | 100% | 9.73 | 0.891 | 8.67 |
| Small Business - SBEP | 0.19 | 81% | 0.15 | 0.891 | 0.14 |
| Midstream - Lighting | 6.94 | 97% | 6.70 | 0.913 | 6.12 |
| Midstream - HVAC | 0.05 | 101% | 0.06 | 0.883 | 0.05 |
| Midstream - Food Service | 0.09 | 102% | 0.09 | 0.800 | 0.07 |
| Midstream - Lighting Carryover | 1.36 | 100% | 1.36 | 0.853 | 1.16 |
| *Business Program Subtotal* | *26.88* | *98%* | *26.32* | *0.872* | *22.95* |
| Business Program Total |  |  |  |  | 22.95 |

Table 13. 2023 Business Program Gas Annual Savings Summary

| Initiative/Channel | Ex Ante Gross Therms | Gross Realization Rate | Verified Gross Therms | NTGR | Verified Net Therms |
| --- | --- | --- | --- | --- | --- |
| Standard - Corea | 2,052,279 | 102% | 2,086,763 | 0.614 | 1,281,871 |
| Standard - OS | 134,311 | 101% | 136,026 | 0.880 | 119,703 |
| Standard - BOC Training | 12,371 | 73% | 9,070 | N/A | 9,070 |
| Custom - Custom Incentives | 488,613 | 90% | 439,195 | 0.800 | 351,356 |
| Custom - New Construction Lighting | 0 | N/A | 0 | N/A | 0 |
| RCx - VCx | 0 | N/A | 0 | N/A | 0 |
| RCx – Virtual SEM | 0 | N/A | 0 | N/A | 0 |
| Streetlighting - MOSL | 0 | N/A | 0 | N/A | 0 |
| Streetlighting - UOSL | 0 | N/A | 0 | N/A | 0 |
| Small Business - SBDI | 0 | N/A | 1 | 1.000 | 1 |
| Small Business – SBEP | 27,486 | 97% | 26,729 | 0.891 | 23,815 |
| Midstream - Lighting | 0 | N/A | 0 | N/A | 0 |
| Midstream - HVAC | 13,658 | 100% | 13,658 | 0.880 | 12,019 |
| Midstream - Food Service | 36,690 | 100% | 36,696 | 0.800 | 29,357 |
| Midstream - Lighting Carryover | 0 | N/A | 0 | N/A | 0 |
| *Business Program Subtotal* | *2,765,408* | *99%* | *2,748,139* | *0.665* | *1,827,193* |
| Business Program Total |  |  |  |  | 1,827,193 |

## 2023 Voltage Optimization Program Annual Savings

The 2023 Voltage Optimization Program achieved 83,416 MWh and 13.10 MW in verified net savings. Table 14 presents ex ante gross, verified gross, and verified net savings for the 2023 Voltage Optimization Program.

Table 14. 2023 Voltage Optimization Program Annual Savings Summary

|  | Energy Savings (MWh) | Peak Demand Savings (MW) | Gas Savings (Therms) |
| --- | --- | --- | --- |
| Ex Ante Gross Savingsa | 71,264 | N/A | N/A |
| Gross Realization Rate | 117% | N/A | N/A |
| Verified Gross Savings | 83,416 | 13.10 | N/A |
| NTGR | N/A | N/A | N/A |
| Verified Net Savings | 83,416 | 13.10 | N/A |

a Ex ante energy savings sourced from AIC. Ex ante gross savings assume 0.80 CVR factor and 3.2% voltage reduction across the 194 measured circuits.

b There are no ex ante peak demand savings estimates for this program.

# Portfolio Economic and Employment Impacts

The Illinois Energy Efficiency Policy Manual (“the Policy Manual”) Version 3.0 requires that each program administrator in Illinois annually report estimates of the economic development and employment impacts of its energy efficiency programs.[[14]](#footnote-14) In accordance with that requirement, this section includes a summary of the economic and employment impacts produced by AIC's energy efficiency portfolio in 2023, as well as the inputs used to estimate these results.

The methodology used in this analysis is consistent with that developed by consensus with the Illinois Stakeholder Advisory Group Non-Energy Impacts Working Group and used in previous analyses.

Table 15 presents the cumulative economic and employment impacts resulting from AIC's 2023 energy efficiency programs. Further analytical details are available on request.

Table 15. 2023 AIC Portfolio Job and Macroeconomic Impacts

| Impact Category | Direct | Indirect | Induced | Total |
| --- | --- | --- | --- | --- |
| Industry Output |  |  |  |  |
| Employment (Job-Years) |  |  |  |  |
| Labor Income |  |  |  |  |

1. 2023 Detailed Verified Savings Results

Table 16 and Table 17 present the detailed verified savings results tables for the 2023 AIC portfolio.

Table 16. 2023 Detailed Verified Savings Results – Electric

| Initiative | Channel | Ex Ante Gross | Realization Rate | Verified Gross | | | Deemed/ Used | Verified Net | | | | | Actual | Evaluation Estimate  (Where Available) | Participation | | WAML |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| First Year Annual Energy Savings | Energy Savings (Ex Ante Gross / Verified Gross) | First Year Annual Energy Savings | First Year Peak Demand Savings | Lifetime Savings | NTGR | First Year Annual Savings | First Year Peak Demand Savings | Lifetime Savings | First Year Cost per First Year Annual Savings | First Year Cost per Lifetime Savings | Program Costs | NTGR | # Units | Units Definition | Years |
| MWh | % | MWh | MW | MWh | % | MWh | MW | MWh | $/MWh | $/MWh | $ | % |
| Residential Program |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Retail Products | Income Qualified | 121,109 | 100% | 121,418 | 14.98 | 994,116 | 0.898 | 109,002 | 13.47 | 892,457 |  |  |  | N/A | 2,579,232 | Measures Incented | 8.2 |
| Retail Products | Market Rate Incentive-Based | 20,675 | 98% | 20,294 | 4.07 | 182,325 | 0.796 | 16,159 | 3.14 | 145,181 |  |  |  | No research | 201,712 | Measures Incented | 8.7 |
| Retail Products | ECT | N/A | N/A | 562 | 0.09 | 7,286 | 0.666 | 374 | 0.06 | 4,856 |  |  |  | Varies | 4,250 | Purchases | 13.0 |
| Retail Products | Income Qualified Carryover | N/A | N/A | 7,557 | 0.98 | 70,380 | 0.919 | 6,941 | 0.90 | 64,650 |  |  |  | N/A | N/A | N/A | 10.0 |
| Retail Products | Market Rate Carryover | N/A | N/A | 8,799 | 1.15 | 59,593 | 0.712 | 6,264 | 0.82 | 42,426 |  |  |  | N/A | N/A | N/A | 9.3 |
| Income Qualified | Single Family | 3,106 | 101% | 3,123 | 0.87 | 40,970 | 1.000 | 3,123 | 0.87 | 40,970 |  |  |  | N/A | 2,294 | Customers Served | 14.2 |
| Income Qualified | CAA | 1,111 | 99% | 1,101 | 0.25 | 16,403 | 1.000 | 1,101 | 0.25 | 16,403 |  |  |  | N/A | 322 | Customers Served | 15.8 |
| Income Qualified | Joint Utility | 105 | 100% | 105 | 0.04 | 1,127 | 1.000 | 105 | 0.04 | 1,127 |  |  |  | N/A | 98 | Customers Served | 11.6 |
| Income Qualified | Smart Savers | 4,942 | 97% | 4,807 | 1.23 | 52,881 | 0.999 | 4,804 | 1.22 | 52,843 |  |  |  | N/A | 9,239 | Thermostats | 11.0 |
| Income Qualified | MHAS | 183 | 147% | 269 | 0.11 | 2,987 | 1.000 | 269 | 0.11 | 2,987 |  |  |  | N/A | 248 | Customers Served | 11.5 |
| Income Qualified | Carryover | N/A | N/A | 737 | 0.09 | 6,826 | 1.000 | 737 | 0.09 | 6,826 |  |  |  | N/A | N/A | N/A | 10.0 |
| Multifamily | Income Qualified | 8,128 | 94% | 7,643 | 0.84 | 98,486 | 1.000 | 7,643 | 0.84 | 98,486 |  |  |  | N/A | 2,026 | Tenant Units | 13.3 |
| Multifamily | Market Rate | 2,752 | 100% | 2,750 | 0.42 | 32,603 | 0.878 | 2,413 | 0.36 | 28,613 |  |  |  | Varies | 903 | Tenant Units | 12.3 |
| Multifamily | Public Housing | 1,266 | 94% | 1,194 | 0.17 | 13,808 | 1.000 | 1,194 | 0.17 | 13,808 |  |  |  | N/A | 1,135 | Tenant Units | 11.8 |
| Market Rate Single Family | Midstream HVAC | 12,280 | 100% | 12,280 | 1.68 | 190,308 | 0.701 | 8,612 | 1.17 | 133,460 |  |  |  | Varies | 9,125 | Measures Rebated | 15.5 |
| Market Rate Single Family | Home Efficiency | 83 | 99% | 82 | 0.04 | 1,542 | 0.834 | 69 | 0.03 | 1,286 |  |  |  | No research | 116 | Customers Served | 19.9 |
| Kits | School Kits | 4,082 | 123% | 5,027 | 0.72 | 44,503 | 1.000 | 5,027 | 0.72 | 44,503 |  |  |  | N/A | 9,500 | Kits | 8.9 |
| Kits | High School Innovation | 713 | 111% | 793 | 0.11 | 8,189 | 1.000 | 793 | 0.11 | 8,189 |  |  |  | N/A | 2,500 | Kits | 10.4 |
| Kits | IQ Community Kits | 1,330 | 100% | 1,330 | 0.17 | 1,317 | 1.000 | 1,330 | 0.17 | 1,317 |  |  |  | N/A | 2,965 | Kits | 8.2 |
| Kits | Mobile Home Kits | 156 | 103% | 161 | 0.02 | 12,056 | 1.000 | 161 | 0.02 | 12,056 |  |  |  | N/A | 242 | Kits | 9.1 |
| Kits | Joint Utility Kits | 87 | 99% | 87 | 0.01 | 846 | 1.000 | 87 | 0.01 | 846 |  |  |  | N/A | 340 | Kits | 9.8 |
| Kits | Carryover | N/A | N/A | 1,245 | 0.14 | 11,406 | 0.996 | 1,240 | 0.14 | 11,361 |  |  |  | N/A | N/A | N/A | 9.8 |
| Residential NPSO Adder | | N/A | N/A | N/A | N/A | N/A | N/A | 1,051 | 0.17 | 11,030 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Business Program |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Standard | Core | 29,570 | 99% | 29,351 | 4.81 | 383,703 | 0.825 | 24,206 | 3.98 | 316,440 |  |  |  | Varies | 669 | Projects | 13.2 |
| Standard | Online Store | 2,542 | 96% | 2,430 | 0.56 | 26,772 | 0.928 | 2,256 | 0.49 | 24,856 |  |  |  | Varies | 2,883 | Measures Incented | 11.0 |
| Standard | BOC | 819 | 88% | 724 | 0.08 | 6,680 | 1.000 | 724 | 0.08 | 6,680 |  |  |  | N/A | 12 | Customers Trained | 13.0 |
| Custom | Custom Incentives | 21,975 | 89% | 19,604 | 2.45 | 323,907 | 0.786 | 15,413 | 1.93 | 254,656 |  |  |  | No research | 117 | Projects | 16.5 |
| Custom | New Construction Lighting | 2,100 | 97% | 2,039 | 0.33 | 20,500 | 0.786 | 1,603 | 0.26 | 16,117 |  |  |  | No research | 22 | Projects | 10.1 |
| Retro-Commissioning | Virtual Commissioning | 5,597 | 94% | 5,247 | 0.00 | 38,305 | 0.930 | 4,880 | 0.00 | 35,624 |  |  |  | 83% | 31 | Sites Treated | 7.3 |
| Retro-Commissioning | Virtual SEM | 44 | 87% | 38 | 0.00 | 266 | 1.000 | 38 | 0.00 | 266 |  |  |  | No research | 1 | Participant | 7.0 |
| Streetlighting | MOSL | 133 | 100% | 133 | 0.00 | 2,658 | 0.690 | 92 | 0.00 | 1,834 |  |  |  | No research | 129 | Streetlights | 20.0 |
| Streetlighting | UOSL | 19,917 | 100% | 19,917 | 0.00 | 372,078 | 1.000 | 19,917 | 0.00 | 372,078 |  |  |  | N/A | 29,389 | Streetlights | 20.0 |
| Small Business | SBDI | 61,903 | 100% | 61,906 | 9.73 | 735,917 | 0.891 | 55,159 | 8.67 | 655,702 |  |  |  | No research | 311,991 | Measures Installed | 12.5 |
| Small Business | SBEP | 711 | 46% | 327 | 0.15 | 6,439 | 0.891 | 291 | 0.14 | 5,737 |  |  |  | No research | 59 | Projects | 19.7 |
| Midstream | Lighting | 29,202 | 101% | 29,577 | 6.70 | 432,799 | 0.913 | 27,010 | 6.12 | 395,232 |  |  |  | No research | 774,926 | Measures Incented | 14.6 |
| Midstream | HVAC | 215 | 97% | 207 | 0.06 | 2,665 | 0.884 | 183 | 0.05 | 2,356 |  |  |  | Varies | 187 | Measures Incented | 12.8 |
| Midstream | Food Service | 590 | 101% | 594 | 0.09 | 7,170 | 0.800 | 475 | 0.07 | 5,736 |  |  |  | No research | 233 | Measures Incented | 12.1 |
| Midstream | Carryover | 5,735 | 100% | 5,735 | 1.36 | 81,276 | 0.853 | 4,890 | 1.16 | 69,304 |  |  |  | N/A | N/A | N/A | 14.3 |
| Voltage Optimization Program | | 71,264 | 117% | 83,416 | 13.10 | 1,251,236 | 1.000 | 83,416 | 13.10 | 1,251,236 |  |  |  | N/A | 191 | Circuits | 15.0 |
| Voltage Optimization | | 71,264 | 117% | 83,416 | 13.10 | 1,251,236 | 1.000 | 83,416 | 13.10 | 1,251,236 |  |  |  | N/A | 191 | Circuits | 15.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Portfolio Total | | 434,427 | 106% | 462,610 | 67.59 | 5,542,330 | 0.906 | 419,052 | 60.94 | 5,049,535 |  |  |  |  |  |  | 12.7 |

Savings presented reflect actual savings achieved by the programs and do not reflect Illinois state law-allowed conversions used in determining goal attainment [(b-25) or (b-27) conversions].

Program costs presented in the “Portfolio Total” row include unallocated portfolio-level administrative cost and therefore are in excess of the sums of the individual rows.

Table 17. 2023 Detailed Verified Savings Results – Gas

| Initiative | Channel | Ex Ante Gross | Realization Rate | Verified Gross | | Deemed/ Used | Verified Net | | | | Actual | Evaluation Estimate  (Where Available) | Participation | | WAML |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| First Year Annual Energy Savings | Energy Savings (Ex Ante Gross / Verified Gross) | First Year Annual Energy Savings | Lifetime Savings | NTGR | First Year Annual Savings | Lifetime Savings | First Year Cost per First Year Annual Savings | First Year Cost per Lifetime Savings | Program Costs | NTGR | # Units | Units Definition | Years |
| Therms | % | Therms | Therms | % | Therms | Therms | $/Therm | $/Therm | $ | % |
| Residential Program |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Retail Products | Income Qualified | 500,708 | 103% | 513,555 |  | 1.000 | 513,555 |  |  |  |  | N/A | 2,579,232 | Measures Incented |  |
| Retail Products | Market Rate Incentive-Based | 982,688 | 98% | 965,353 |  | 0.896 | 865,222 |  |  |  |  | No research | 201,712 | Measures Incented |  |
| Retail Products | ECT | N/A | N/A | 48,623 |  | 0.603 | 29,321 |  |  |  |  | Varies | 4,250 | Purchases |  |
| Income Qualified | Single Family | 387,406 | 100% | 387,663 |  | 1.000 | 387,663 |  |  |  |  | N/A | 2,294 | Customers Served |  |
| Income Qualified | CAA | 112,071 | 101% | 112,999 |  | 1.000 | 112,999 |  |  |  |  | N/A | 322 | Customers Served |  |
| Income Qualified | Joint Utility | N/A | N/A | N/A |  | N/A | N/A |  |  |  |  | N/A | 98 | Customers Served |  |
| Income Qualified | Smart Savers | 487,592 | 96% | 468,036 |  | 1.000 | 467,813 |  |  |  |  | N/A | 9,239 | Thermostats |  |
| Income Qualified | MHAS | 54,178 | 95% | 51,317 |  | 1.000 | 51,317 |  |  |  |  | N/A | 248 | Customers Served |  |
| Multifamily | Income Qualified | 89,536 | 100% | 89,674 |  | 1.000 | 89,674 |  |  |  |  | N/A | 2,026 | Tenant Units |  |
| Multifamily | Market Rate | 9,304 | 100% | 9,304 |  | 0.922 | 8,581 |  |  |  |  | Varies | 903 | Tenant Units |  |
| Multifamily | Public Housing | 41,101 | 100% | 41,102 |  | 1.000 | 41,102 |  |  |  |  | N/A | 1,135 | Tenant Units |  |
| Market Rate Single Family | Midstream HVAC | 323,915 | 100% | 324,132 |  | 0.809 | 262,076 |  |  |  |  | Varies | 9,125 | Measures Rebated |  |
| Market Rate Single Family | Home Efficiency | 18,217 | 100% | 18,221 |  | 0.822 | 14,983 |  |  |  |  | No research | 116 | Customers Served |  |
| Kits | School Kits | 105,035 | 127% | 133,530 |  | 1.000 | 133,530 |  |  |  |  | N/A | 9,500 | Kits |  |
| Kits | High School Innovation | 17,452 | 120% | 20,867 |  | 1.000 | 20,867 |  |  |  |  | N/A | 2,500 | Kits |  |
| Kits | Income Qualified Community Kits | 40,889 | 98% | 40,266 |  | 1.000 | 40,266 |  |  |  |  | N/A | 2,965 | Kits |  |
| Kits | Mobile Home Kits | 2,021 | 116% | 2,344 |  | 1.000 | 2,344 |  |  |  |  | N/A | 242 | Kits |  |
| Kits | Joint Utility Kits | 0 | N/A | 7 |  | 1.000 | 7 |  |  |  |  | N/A | 340 | Kits |  |
| Residential NPSO Adder | | N/A | N/A | N/A |  | N/A | 51,928 |  |  |  |  | N/A | N/A | N/A |  |
| Business Program |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Standard | Core | 2,052,279 | 102% | 2,086,763 |  | 0.614 | 1,281,871 |  |  |  |  | Varies | 669 | Projects |  |
| Standard | Online Store | 134,311 | 101% | 136,026 |  | 0.880 | 119,703 |  |  |  |  | Varies | 2,883 | Measures Incented |  |
| Standard | BOC | 12,371 | 73% | 9,070 |  | 1.000 | 9,070 |  |  |  |  | N/A | 12 | Customers Trained |  |
| Custom | Custom Incentives | 488,613 | 90% | 439,195 |  | 0.800 | 351,356 |  |  |  |  | No research | 117 | Projects |  |
| Custom | New Construction Lighting | 0 | N/A | 0 |  | N.A. | 0 |  |  |  |  | No research | 22 | Projects |  |
| Retro-Commissioning | Virtual Commissioning | 0 | N/A | 0 |  | N.A. | 0 |  |  |  |  | 83% | 31 | Sites Treated |  |
| Retro-Commissioning | Virtual SEM | 0 | N/A | 0 |  | N.A. | 0 |  |  |  |  | No research | 1 | Participant |  |
| Streetlighting | MOSL | 0 | N/A | 0 |  | N.A. | 0 |  |  |  |  | No research | 129 | Streetlights |  |
| Streetlighting | UOSL | 0 | N/A | 0 |  | N.A. | 0 |  |  |  |  | N/A | 29,389 | Streetlights |  |
| Small Business | SBDI | 0 | N/A | 1 |  | 0.891 | 1 |  |  |  |  | No research | 311,991 | Measures Installed |  |
| Small Business | SBEP | 27,486 | 97% | 26,729 |  | 0.891 | 23,815 |  |  |  |  | No research | 59 | Projects Completed |  |
| Midstream | Lighting | 0 | N/A | 0 |  | N.A. | 0 |  |  |  |  | No research | 774,926 | Measures Incented |  |
| Midstream | HVAC | 13,658 | 100% | 13,658 |  | 0.880 | 12,019 |  |  |  |  | Varies | 187 | Measures Incented |  |
| Midstream | Food Service | 36,690 | 100% | 36,696 |  | 0.800 | 29,357 |  |  |  |  | No research | 233 | Measures Incented |  |
| Voltage Optimization Program | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Voltage Optimization | | 0 | N/A | 0 |  | N/A | 0 |  |  |  |  | N/A | N/A | N/A | N/A |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Portfolio Total | | 5,937,521 | 101% | 5,975,133 |  | 0.823 | 4,920,443 |  |  |  |  |  |  |  |  |

Savings presented reflect actual savings achieved by the programs and do not reflect Illinois state law-allowed conversions used in determining goal attainment [(b-25) or (b-27) conversions].

Program costs presented in the “Portfolio Total” row include unallocated portfolio-level administrative cost and therefore are in excess of the sums of the individual rows.

1. 2023 Program Evaluation Reports

The 2023 Residential Program, Business Program, and Voltage Optimization Program Impact Evaluation Reports, as well as the 2023 AIC Carryover Savings Memo are available under separate cover on the Illinois Stakeholder Advisory Group website (<https://www.ilsag.info>).

1. 2023 Cumulative Persisting Annual Savings

This appendix presents detailed CPAS for the AIC portfolio by initiative. Due to many years of CPAS, the tables can be challenging to read; please reference the separately provided CPAS spreadsheet for additional detail as needed. Table 18 presents CPAS for the 2022 AIC portfolio through 2049 at the initiative level. Lifetime savings for the 2023 AIC portfolio are 5,685,643 MWh.

Table 18. 2023 AIC Portfolio CPAS and WAML

| Initiative | WAML | Annual Verified Gross Savings (MWh) | NTGR | CPAS – Verified Net Savings (MWh) | | | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | 2037 | 2038 |
| Retail Products Initiative | 8.3 | 142,273 | 0.882 | 125,536 | 125,536 | 121,984 | 121,984 | 121,984 | 121,971 | 121,971 | 116,844 | 19,327 | 17,895 | 16,625 | 2,922 | 1,909 | 1,909 | 1,605 | 695 |
| Income Qualified Initiative - Single Family Offerings | 12.7 | 9,405 | 1.000 | 9,402 | 9,402 | 9,402 | 9,402 | 9,402 | 9,402 | 8,680 | 8,531 | 7,850 | 7,850 | 7,517 | 2,481 | 2,474 | 2,474 | 2,474 | 2,178 |
| Multifamily Initiatives | 12.9 | 11,587 | 0.971 | 11,251 | 11,251 | 10,900 | 10,900 | 10,900 | 10,900 | 10,500 | 10,234 | 8,898 | 8,898 | 7,548 | 6,185 | 6,185 | 6,185 | 6,185 | 3,520 |
| Market Rate Single Family Initiative | 15.5 | 12,362 | 0.702 | 8,680 | 8,680 | 8,680 | 8,680 | 8,680 | 8,680 | 8,680 | 8,680 | 8,680 | 8,680 | 8,672 | 8,454 | 8,454 | 8,454 | 8,454 | 3,625 |
| Kits Initiatives | 9.1 | 7,398 | 1.000 | 7,398 | 7,398 | 6,736 | 6,736 | 6,736 | 6,736 | 6,736 | 5,944 | 2,743 | 2,743 | 897 | 897 | 897 | 897 | 897 | 503 |
| Residential Carryover | 9.7 | 18,338 | 0.828 | 15,183 | 15,183 | 15,183 | 15,183 | 12,107 | 11,842 | 11,739 | 9,568 | 9,417 | 9,417 | 93 | 93 | 92 | 92 | 73 | 0 |
| Residential NPSO | 11.0 | 1,388 | 0.757 | 1,051 | 1,051 | 939 | 939 | 844 | 835 | 830 | 800 | 785 | 770 | 668 | 342 | 323 | 323 | 315 | 144 |
| Residential (b-25) Conversions | 13.5 | 22,691 | 0.955 | 21,677 | 21,677 | 21,677 | 21,677 | 21,677 | 21,677 | 18,385 | 18,385 | 18,166 | 18,166 | 18,139 | 2,598 | 2,598 | 2,598 | 2,598 | 2,593 |
| Standard Initiative | 13.1 | 32,506 | 0.836 | 27,187 | 27,183 | 27,133 | 26,916 | 26,475 | 26,297 | 26,185 | 26,027 | 25,980 | 25,803 | 24,040 | 17,552 | 14,340 | 13,425 | 13,222 | 30 |
| Custom Initiative | 15.9 | 21,643 | 0.786 | 17,016 | 17,016 | 17,016 | 17,016 | 17,016 | 16,948 | 16,897 | 16,887 | 16,873 | 16,753 | 15,197 | 15,012 | 14,024 | 11,494 | 9,835 | 4,143 |
| Retro-Commissioning Initiative | 7.3 | 5,285 | 0.931 | 4,918 | 4,918 | 4,918 | 4,918 | 4,918 | 4,918 | 4,918 | 1,464 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Streetlighting Initiative | 20.0 | 20,050 | 0.998 | 20,009 | 20,009 | 20,009 | 18,464 | 18,464 | 18,464 | 18,464 | 18,464 | 18,464 | 18,464 | 18,464 | 18,464 | 18,464 | 18,464 | 18,464 | 18,464 |
| Small Business Initiative | 12.6 | 62,233 | 0.891 | 55,450 | 55,450 | 55,286 | 53,694 | 52,501 | 51,893 | 50,240 | 49,234 | 49,078 | 48,170 | 47,032 | 37,461 | 20,219 | 17,413 | 16,915 | 281 |
| Midstream Initiative | 14.6 | 30,378 | 0.911 | 27,668 | 27,668 | 27,668 | 27,668 | 27,667 | 27,659 | 27,659 | 27,659 | 27,659 | 27,648 | 27,646 | 27,017 | 25,731 | 25,731 | 20,535 | 40 |
| Business Carryover | 14.3 | 5,735 | 0.853 | 4,890 | 4,890 | 4,890 | 4,890 | 4,757 | 4,749 | 4,734 | 4,554 | 4,554 | 4,554 | 4,553 | 4,553 | 4,553 | 4,553 | 3,630 | 0 |
| Business (b-25) Conversions | 23.7 | 20,740 | 0.792 | 16,434 | 16,434 | 16,434 | 16,434 | 16,434 | 16,434 | 16,087 | 16,087 | 16,087 | 16,087 | 16,087 | 16,087 | 16,087 | 16,082 | 15,205 | 14,901 |
| Voltage Optimization Program | 15.0 | 83,416 | 1.000 | 83,416 | 83,416 | 83,416 | 83,416 | 83,416 | 83,416 | 83,416 | 83,416 | 83,416 | 83,416 | 83,416 | 83,416 | 83,416 | 83,416 | 83,416 | 0 |
| 2023 CPAS |  | 507,428 | 0.901 | 457,163 | 457,160 | 452,270 | 448,916 | 443,977 | 442,821 | 436,121 | 422,778 | 317,977 | 315,315 | 296,594 | 243,535 | 219,767 | 213,510 | 203,823 | 51,117 |
| Expiring 2023 CPAS |  |  |  | 0 | 4 | 4,890 | 3,354 | 4,938 | 1,156 | 6,700 | 13,343 | 104,800 | 2,662 | 18,721 | 53,059 | 23,768 | 6,257 | 9,687 | 152,706 |
| Expired 2023 CPAS |  |  |  | 0 | 4 | 4,893 | 8,248 | 13,186 | 14,343 | 21,042 | 34,386 | 139,186 | 141,848 | 160,570 | 213,629 | 237,396 | 243,653 | 253,340 | 406,046 |

Table 18 (Continued). 2023 AIC Portfolio CPAS and WAML

| Initiative | WAML | Annual Verified Gross Savings (MWh) | NTGR | CPAS – Verified Net Savings (MWh) | | | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2039 | 2040 | 2041 | 2042 | 2043 | 2044 | 2045 | 2046 | 2047 | 2048 | 2049 | 2050 | 2051 | 2052 | 2053 | 2054 |
| Retail Products Initiative | 8.3 | 142,273 | 0.882 | 502 | 463 | 463 | 366 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Income Qualified Initiative - Single Family Offerings | 12.7 | 9,405 | 1.000 | 1,434 | 1,434 | 1,379 | 1,134 | 6 | 6 | 6 | 6 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Multifamily Initiatives | 12.9 | 11,587 | 0.971 | 117 | 117 | 117 | 117 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Market Rate Single Family Initiative | 15.5 | 12,362 | 0.702 | 858 | 858 | 61 | 52 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kits Initiatives | 9.1 | 7,398 | 1.000 | 503 | 503 | 503 | 503 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Residential Carryover | 9.7 | 18,338 | 0.828 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Residential NPSO | 11.0 | 1,388 | 0.757 | 31 | 30 | 6 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Residential (b-25) Conversions | 13.5 | 22,691 | 0.955 | 2,593 | 2,593 | 2,593 | 2,593 | 64 | 64 | 64 | 64 | 64 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Standard Initiative | 13.1 | 32,506 | 0.836 | 30 | 30 | 30 | 30 | 21 | 21 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Custom Initiative | 15.9 | 21,643 | 0.786 | 3,817 | 3,580 | 3,318 | 3,103 | 3,094 | 2,870 | 2,683 | 2,640 | 2,635 | 778 | 778 | 778 | 778 | 778 | 0 | 0 |
| Retro-Commissioning Initiative | 7.3 | 5,285 | 0.931 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Streetlighting Initiative | 20.0 | 20,050 | 0.998 | 18,464 | 18,464 | 18,464 | 18,464 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Small Business Initiative | 12.6 | 62,233 | 0.891 | 281 | 281 | 281 | 281 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Midstream Initiative | 14.6 | 30,378 | 0.911 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Business Carryover | 14.3 | 5,735 | 0.853 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Business (b-25) Conversions | 23.7 | 20,740 | 0.792 | 14,901 | 14,901 | 14,901 | 14,901 | 14,824 | 14,824 | 14,824 | 14,824 | 14,824 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Voltage Optimization Program | 15.0 | 83,416 | 1.000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2023 CPAS |  | 507,428 | 0.901 | 43,532 | 43,255 | 42,116 | 41,547 | 18,010 | 17,787 | 17,598 | 17,533 | 17,529 | 778 | 778 | 778 | 778 | 778 | 0 | 0 |
| Expiring 2023 CPAS |  |  |  | 7,585 | 277 | 1,139 | 569 | 23,537 | 223 | 189 | 65 | 5 | 16,750 | 0 | 0 | 0 | 0 | 778 | 0 |
| Expired 2023 CPAS |  |  |  | 413,631 | 413,908 | 415,047 | 415,616 | 439,153 | 439,376 | 439,565 | 439,630 | 439,635 | 456,385 | 456,385 | 456,385 | 456,385 | 456,385 | 457,163 | 457,163 |
| WAML | 12.7 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| WAML without VO | 12.3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

1. 2023 High Impact Measure List

The 2023 high impact measure list is in development and will be included in the final version of this report.

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Description automatically generated

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1. Illinois Energy Efficiency Stakeholder Advisory Group. *Weighted Average Measure Life Report.* 2018. [↑](#footnote-ref-1)
2. Ibid. [↑](#footnote-ref-2)
3. In future years, the evaluation team will apply updated versions of these manuals to the evaluation of this Program as required by law, Illinois Commerce Commission orders, and changes to the manuals themselves. [↑](#footnote-ref-3)
4. Use of the IL-TRM V10.0 errata memo relates to a compromise agreement reached between Illinois stakeholders relating to the phase-out of screw-base lighting measure eligibility in Illinois and will continue through 2024. [↑](#footnote-ref-4)
5. Opinion Dynamics. *Ameren Illinois Company Lighting Carryover Savings Claimable in 2023* accessed at: <https://www.ilsag.info/wp-content/uploads/AIC-2023-Lighting-Carryover-Savings-Memo-FINAL-2024-03-02.pdf> [↑](#footnote-ref-5)
6. Opinion Dynamics. *Ameren Illinois Company Energy Efficiency Portfolio 2023 Net-to-Gross Ratios* accessed at: <https://www.ilsag.info/evaluator-ntg-recommendations-for-2023/> [↑](#footnote-ref-6)
7. Ibid. [↑](#footnote-ref-7)
8. Webster, Lia. IPMVP Application Guide on Non-Routine Events and Adjustments. Efficiency Valuation Organization (EVO). 2020. [↑](#footnote-ref-8)
9. 220 ILCS 5/8-103B(b-25). [↑](#footnote-ref-9)
10. 220 ILCS 5/8-103B(b-27). [↑](#footnote-ref-10)
11. The net difference between the decreased fossil fuel usage and the increased electric usage expressed in Btus. [↑](#footnote-ref-11)
12. Opinion Dynamics. *Ameren Illinois Company Energy Efficiency Portfolio 2023 Net-to-Gross Ratios* accessed at: <https://www.ilsag.info/evaluator-ntg-recommendations-for-2023/> [↑](#footnote-ref-12)
13. The process of computing savings from the residential NPSO adder is complex. See Section 2.3.1 for more detail. [↑](#footnote-ref-13)
14. Illinois Energy Efficiency Policy Manual Version 3.0, Section 6.7. [↑](#footnote-ref-14)