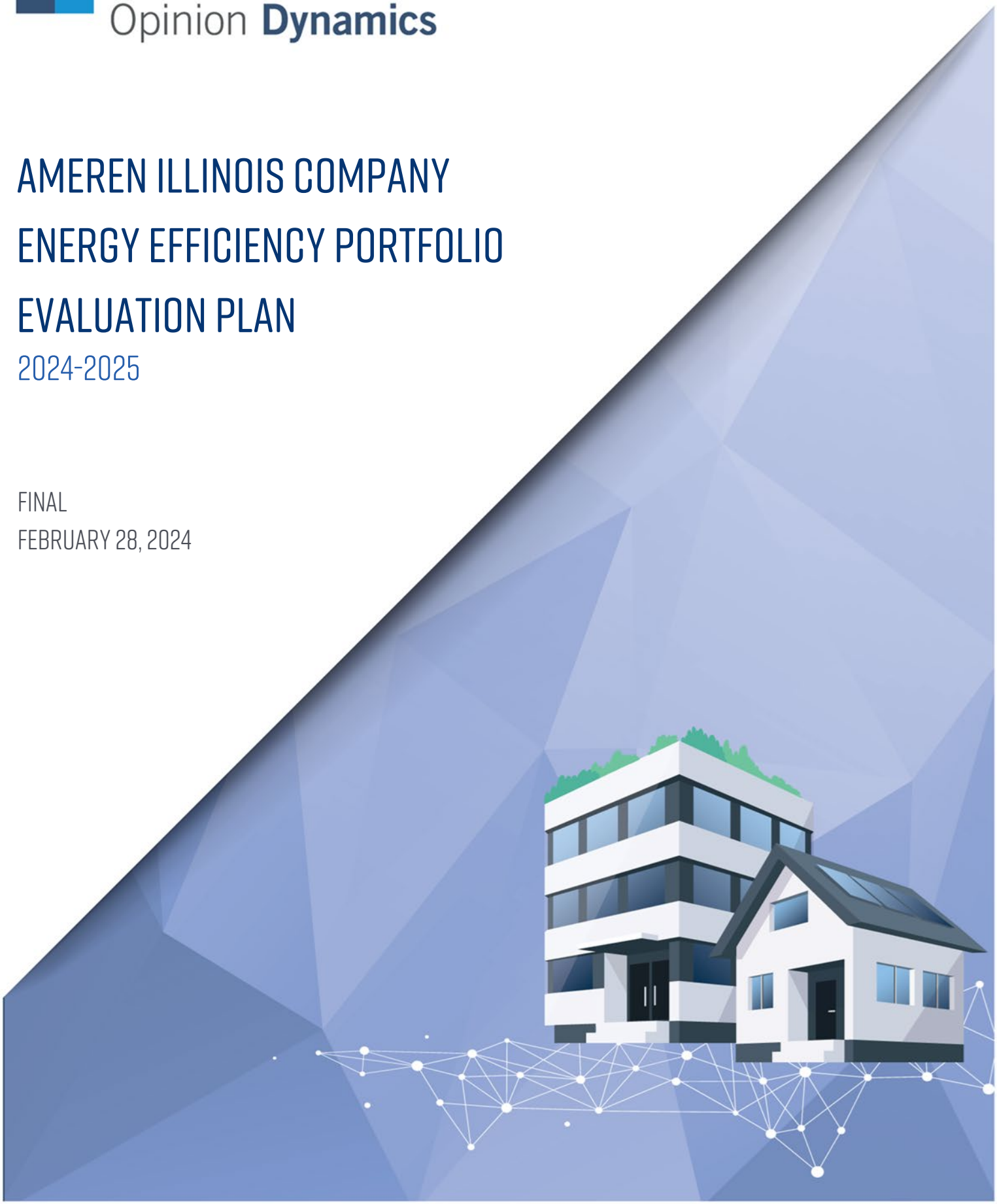
Opinion Dynamics

AMEREN ILLINOIS COMPANY ENERGY EFFICIENCY PORTFOLIO EVALUATION PLAN

2024-2025

FINAL

FEBRUARY 28, 2024



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I. INTRODUCTION

This document presents the 2024 update to the multi-year evaluation plan for Ameren Illinois Company's (AIC) sixth Electric and Gas Energy Efficiency and Demand Response Plan, covering calendar years 2024-2025. Opinion Dynamics, along with its subcontractors Guidehouse, Inc., Michaels Energy, INCA Energy Efficiency, Utilivate Technologies, and Ridge & Associates ("the evaluation team") has been contracted by AIC to provide independent evaluation, measurement, and verification (EM&V) services for the 2022-2025 ("Plan 6") portfolio.[1] In this document, we provide a high-level overview of the evaluation activities planned for calendar years 2024-2025. In addition, we provide a detailed evaluation plan capturing the specific efforts planned to occur for the 2024 program year.

On an annual basis, we will revise this document to present similar detailed evaluation plans for each subsequent year of the cycle. While the multi-year evaluation plan overview presented in this document will serve as the foundation for the annual revisions to the evaluation plan, AIC's programs and evaluation priorities may change from year to year.

The primary goal of the annual evaluation efforts is to determine the electric energy, electric demand, and gas savings from AIC's energy efficiency program offerings, as well as what steps, if any, could be taken to optimize program performance from either an energy savings or customer satisfaction and engagement perspective. Findings from the evaluation process may be used by AIC and relevant stakeholders to demonstrate progress against savings targets, modify program design and operations, inform strategies to achieve deeper program savings, and ensure customer satisfaction and cost effectiveness.

The following sections describe the AIC energy efficiency portfolio to be evaluated, as well as key evaluation considerations guiding the evaluation team's approach and planned outcomes.

I.I LEGISLATIVE MANDATES INFORMING ENERGY EFFICIENCY AND EVALUATION

AIC's Plan 6 portfolio is governed by components of Illinois state law (220 ILCS 5/8-103B ["Section 8-103B"] and 220 ILCS 5/8-104 ["Section 8-104"]) which directs large, regulated utilities to offer electric and gas energy efficiency programs. Plan 6 was filed by AIC and approved by the Illinois Commerce Commission (ICC) while versions of Section 8-103B and Section 8-104 that were revised as part of Senate Bill 2814 (the Future Energy Jobs Act, or "FEJA") were in effect, and therefore was designed to meet the requirements presented in FEJA.

Specifically, FEJA introduced changes to utility electric savings targets, planning cycles and requirements, and to performance incentive mechanisms that continue to be relevant to both implementation and evaluation of electric energy efficiency programs:

- **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 also sought to deliver programs that achieve savings that persist for a longer period of time.
- **Weighted Average Measure Life (WAML):** FEJA replaced the existing funding mechanism for electric energy efficiency in Illinois by allowing AIC to create a regulatory asset 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."[2] Therefore, annual evaluations of AIC's electric energy

[1] Approved by the ICC in Docket 21-0158: https://www.icc.illinois.gov/docket/P2021-0158.

[2] Illinois Energy Efficiency Stakeholder Advisory Group. *Weighted Average Measure Life Report*. 2018.

efficiency programs must present a WAML in accordance with the guidelines for calculation presented in the Illinois Energy Efficiency Stakeholder Advisory Group's (SAG) WAML Report.[3]

- **Applicable Annual Incremental Goal (AAIG):** Section 8-103B allows AIC to earn a rate of return on their 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.
- **Third-Party Programs:** Section 8-103B requires that as a component of its portfolio, AIC must request proposals for energy efficiency programs from third-party vendors and select third-party programs to fund in an amount of no less than $8.35 million annually.

On September 15, 2021, after Plan 6 had been filed and approved, Illinois Public Act 102-0662 (the Climate and Equitable Jobs Act, or "CEJA") was signed into law. CEJA introduced further changes to electric energy efficiency that will inform both the implementation and evaluation of Plan 6. A full accounting of these changes is beyond the scope of this plan, but in particular, the following key items have the potential to significantly affect Plan 6:

- **Electrification:** CEJA includes statutory language that enables electric utilities to use their energy efficiency programs to offer and promote measures that electrify end uses, such as space and water heating, that would otherwise be served by fossil fuels.

  As a result, we understand that AIC will likely be pursuing program strategies in Plan 6 that seek to begin limited electrification activities. In particular, we expect targeted efforts to electrify end uses for low income customers currently served by delivered fuels, such as propane.

- **Large Customer Opt-Outs:** As a provision of FEJA, all nonresidential electric customer sites with peak 15 minute demand greater than 10 MW become ineligible to participate in utility energy efficiency programs as of June 1, 2017. This change significantly affected AIC's electric energy efficiency programs, which historically had achieved a large amount of electric energy savings from these customers. AIC made several changes to the Business Program in the 2018-2021 cycle to compensate, including significantly increased investment in small business-focused efforts.

  CEJA has modified this provision significantly. All previously exempt public sector customers are once again eligible for AIC programs. Previously exempt private sector customers have the option to opt-out or participate in AIC programs, and if they choose to opt out they may further exempt any other sites associated with their business even if their peak 15 minute demand is not greater than 10MW. As a result, we expect continued changes in the delivery and targeting of AIC programs during Plan 6; in particular, we anticipate increased investment in the Custom Initiative, which is a commonly-used channel through which large customers can pursue energy efficiency upgrades with AIC's assistance.

- **Savings Conversion:** A provision of FEJA allowed electric utilities to "convert" non-electric energy savings achieved to electric savings for the purposes of goal attainment in certain cases. The total amount of savings allowed to be converted was capped at a maximum of 10% of the utility's AAIG as part of FEJA. Updates in CEJA increase the conversion cap to 10% of the utility's annual applicable total savings requirement (a number significantly higher than the AAIG), which will increase the ability of electric utilities to claim alternate fuel savings achieved through their programs against their goals.

[3] Ibid.

We continue to actively engage with AIC, ICC Staff, and the SAG on these issues, as well as collaborating with other evaluation teams in the state to ensure the evaluation of Plan 6 achieves these key objectives.

1.2 AIC'S ENERGY EFFICIENCY PORTFOLIO

AIC's energy efficiency portfolio for Plan 6 is made up of three programs: the Residential Program, the Business Program, and the Voltage Optimization (VO) Program. The Residential and Business Programs are further subdivided into multiple initiatives that take different approaches to serving AIC customers. Initiatives, in turn, include channels that target specific market segments and/or equipment types.

Both programs generate electric and gas savings for AIC's customers. While initiatives and channels have changed in name, level of effort, and organization from previous AIC plan cycles, the core components of the portfolio continue to be implemented in a consistent manner. Figure 1 provides high level detail on the organization of the AIC portfolio.

Figure 1. AIC 2022-2025 Energy Efficiency Programs and Initiatives

PROGRAM		
Voltage Optimization Program	**Residential Program**	**Business Program**
INITIATIVES		
	▪ Market Rate SF ▪ Market Rate MF ▪ Direct Distribution ▪ Retail Products ▪ Income Qualified ▪ Public Housing ▪ Electrification ▪ Market Transformation	▪ Standard ▪ Small Business ▪ Midstream ▪ Custom ▪ Retro-Commissioning ▪ Streetlighting ▪ Market Transformation

2. EVALUATION POLICIES AND DEFINITIONS

In preparing this plan, the evaluation team reviewed key documents guiding energy efficiency policy in Illinois, including:

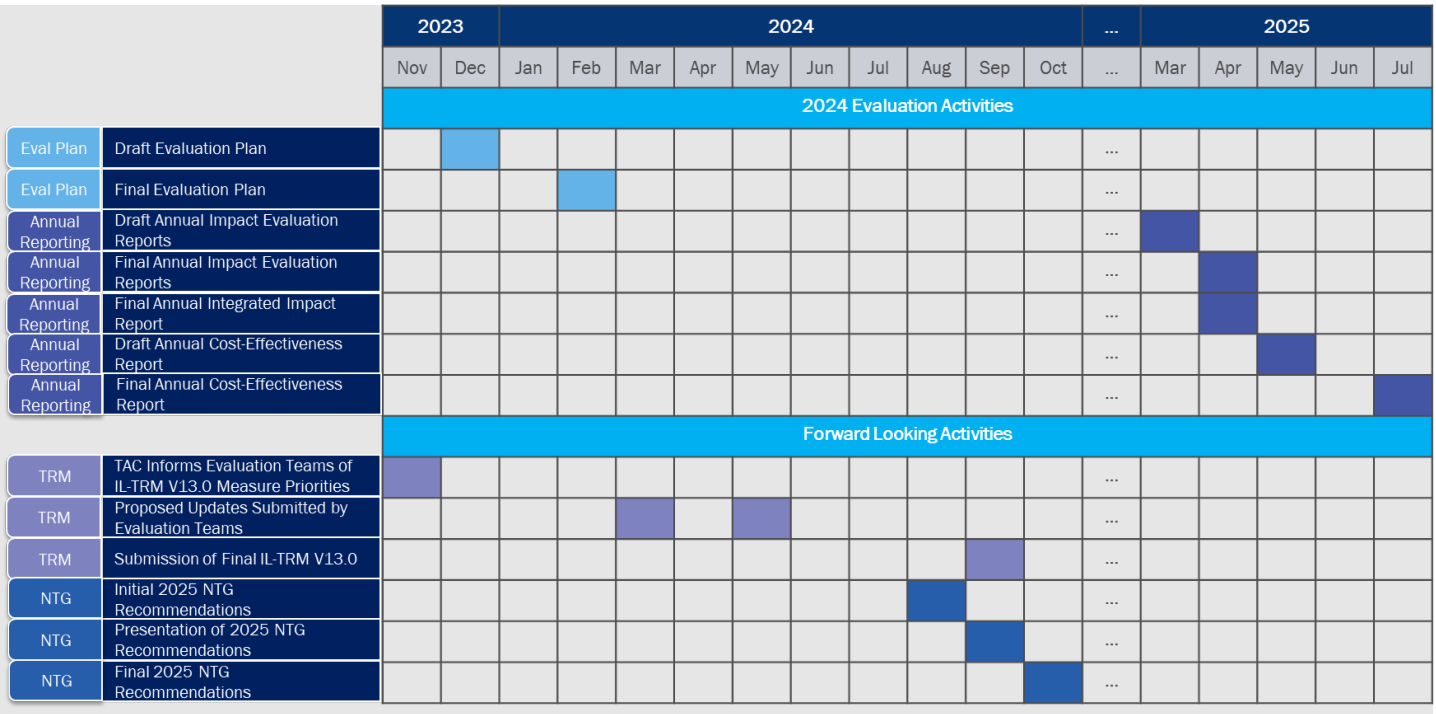
- The governing statutes for electric and gas energy efficiency in Illinois, Section 8-103B and Section 8-104, with particular focus paid to legislative changes made as part of CEJA that affect 8-103B
- The Illinois Statewide Technical Reference Manual for Energy Efficiency (IL-TRM) Version 12.0
- The Illinois Energy Efficiency Policy Manual (Policy Manual) Versions 2.1 and 3.0
- The Policy Document for the Illinois Statewide Technical Reference Manual for Energy Efficiency (IL-TRM Policy Document) Versions 3.1 and 4.0
- Documents in ICC Docket 21-0158, including the initial and revised AIC Plan 6 filings, the initial and revised settlement stipulations between AIC and stakeholders memorializing agreement on plan objectives, and the initial and revised final orders approving Plan 6
- AIC documents relating to Plan 6 and the 2024 program year

In this section, we outline key requirements around when evaluation-based information should become available. We also provide a set of key terms and definitions used within this document so that stakeholders have a clear understanding of what is planned.

2.1 EVALUATION REQUIREMENTS

Table 1 outlines the dates at which the evaluation team must provide inputs to and outputs from its evaluation efforts. These include evaluation plans and reports, and research and evaluator recommendations related to net-to-gross ratios (NTGRs), and the IL-TRM.

Table 1. Annual Evaluation Milestones



Beyond the stipulated timelines presented in Table 1, it is important to note that the NTG policies included in the Policy Manual state that:

- Free-ridership must be assessed for each program when conducting NTG research;
- Spillover should be included whenever feasible, and the use of secondary sources should be considered if primary research is not possible; and
- Portfolio-level spillover analysis should be considered at least once during a Plan period if feasible.

2.1.1 EVALUATION TERMS AND DEFINITIONS

Within this section, we outline and define the key terms used throughout this plan and in reporting on AIC's energy efficiency achievements. The first set of terms, presented in Table 2, relates to gross and net energy (MWh and therm) and demand (MW) savings.[4]

Table 2. Gross Savings-Related Terminology and Definitions

Savings Terminology	Definition
Ex Ante Gross Savings	Gross savings present in the final program-tracking database provided by AIC
Ex Ante Net Savings	Net savings present in the final program-tracking database provided by AIC
Verified Gross Savings	Gross savings calculated by the evaluation team
Verified Net Savings	Net savings calculated by the evaluation team based on SAG-approved NTGRs

In Table 3, the evaluation team also defines each of the impact evaluation activities outlined in the evaluation plan. Note that we have differentiated between activities applicable to prescriptive and custom measures, respectively, and use this terminology consistently throughout the evaluation plan.

Table 3. Gross Impact Evaluation Activity Definitions

Prescriptive Measures	Custom Measures
Definition: Measures with predetermined savings values or IL-TRM algorithms for use in determining savings Example: Tier 1 Advanced Power Strip	Definition: Unique or complex measures for which there is not an IL-TRM algorithm Example: Compressed air system resequencing
Impact Evaluation Activity Definitions	
▪ **Database Review**: This activity involves reviewing the program or initiative-tracking data to check that incentivized measures meet program requirements. ▪ **Engineering Desk Review**: This activity involves reviewing supporting project documentation, as well as initiative-tracking data to ensure that original data was entered correctly from invoices/documentation. ▪ **IL-TRM Application Review**: This activity involves reviewing initiative-tracking data to see that the correct deemed input values and IL-TRM specified algorithms are used in calculating gross energy savings. ▪ **On-Site Verification**: This activity involves on-site visits, typically with a sample of projects, to verify that incentivized measures are installed and operational.	▪ **Database Review**: This activity involves reviewing the program or initiative-tracking data to check that incentivized measures meet all program requirements. ▪ **Engineering Desk Review**: This activity involves reviewing project documentation and calculations, and making any associated revisions to account for analytical errors, incorrect assumptions, etc. ▪ **On-Site Measurement & Verification**: This activity involves conducting site-specific measurement and verification (M&V) (for example, metering equipment runtime), typically with a sample of projects, to estimate site-specific savings. ▪ **Consumption Analysis**: This analysis involves the use of regression models with historic customer energy usage information to calculate gross annual energy savings. ▪ **Modeling**: The use of building simulation and statistical models to estimate gross building-level energy savings.

In alignment with Illinois policy, for the 2024-2025 evaluation, we will convert gross savings to net savings using SAG-approved NTGRs. For selected initiatives, we will conduct research to estimate NTGRs that will be used to prospectively update SAG-approved NTGRs.

[4] Gross savings are the change in energy consumption and/or demand that results directly from program-related actions taken by participants in an efficiency program, regardless of why they participated. Net savings are the change in energy consumption and/or demand that is attributable to a particular energy efficiency program (State and Local Energy Efficiency Action Network [SEE Action] Energy Efficiency Program Impact Evaluation Guide).

3. MULTI-YEAR EVALUATION PLAN

In this section of the evaluation plan, we outline the anticipated evaluation activities by year during 2024-2025 for the Residential, Business, and VO Programs. In addition, we highlight key expected research around pilots as well as expected cross-cutting research activities.

In order to best serve AIC and stakeholders, we have considered the delivery strategy and unique characteristics for each AIC offering and organized our evaluation activities to most effectively use evaluation resources, minimize customer touchpoints, and provide research insights.

As a result, evaluation efforts are not always organized in a way that perfectly aligns with portfolio organization. For example, we choose to group all three distinct AIC multifamily offerings (the Public Housing Initiative, all channels of the Market Rate Multifamily Initiative, and the Multifamily channel of the Income Qualified Initiative) together for efficiency.

3.1 RESIDENTIAL PROGRAM

3.1.1 RETAIL PRODUCTS INITIATIVE

The AIC Retail Products Initiative includes several incentive-based channels, which offer discounts on a wide range of qualifying ENERGY STAR® products. Customers can participate through the following channels:

- By receiving a point-of-purchase (POP) discount on purchases of advanced power strips, air purifiers, bathroom vent fans, dehumidifiers, door sweeps, faucet aerators, showerhead kits, water dispensers, or LED lighting at participating retailers. AIC incentivizes Energy Independence and Security Act (EISA)-exempt lighting (e.g., night lights and shop lights) at all retail locations, but only incentivizes general service (i.e., non-EISA-exempt) LEDs in locations deemed as income qualified (IQ) by Illinois stakeholders;
- By visiting the AIC Online Marketplace to purchase advanced thermostats, advanced power strips, air purifiers, door sweeps, faucet aerators, showerhead kits, wall plate gaskets, or weatherstripping;
- By submitting an online or mail-in rebate application for the purchase of qualified products (such as advanced thermostats, air purifiers, and refrigerators) at brick and mortar or online retailers;
- By registering online and downloading a coupon for qualified advanced thermostats that can be used to receive a POP discount at select brick and mortar or online retailers.

Table 4 summarizes the evaluation activities planned for the Retail Products Initiative over the two-year evaluation plan period.

Table 4. Retail Products Initiative Evaluation Activities – Two-Year Plan

Timing	Activity	2024	2025
Annual	Initiative Material and Database Review	✓	✓
	Initiative Staff Interviews	✓	✓
	Gross Impact Analysis – Database Review	✓	✓
	Gross Impact Analysis – IL-TRM Application Review	✓	✓
	Net Impact Analysis – SAG-Approved NTGR Application	✓	✓
Phased	Participant Survey	✓	

The rationale for these activities is as follows:

- **2024:** The evaluation team will conduct core impact and process evaluation activities along with a survey of participants to develop updated in-service rate (ISR) and NTGR estimates for future application. The survey will focus on product categories with adequate participation for sampling and which are expected to be offered in future years. The 2024 impact evaluation will apply IL-TRM V12.0-recommended savings assumptions and SAG-approved NTGRs for all channels and measures included in the Retail Products Initiative.
- **2025:** In the final year of the program cycle, the evaluation team plans to conduct only core impact and process evaluation activities but may conduct additional research as needed based on changes to Initiative offerings or implementation strategies.

3.1.2 MARKET RATE SINGLE FAMILY INITIATIVE – MIDSTREAM HVAC CHANNEL

The Market Rate Single Family Initiative (MR SF Initiative)'s Midstream HVAC Channel is designed to influence distributor stocking and sales practices related to high efficiency HVAC, gas furnaces, and heat pump water heater (HPWH) measures. 2024 will be the fourth year of AIC's implementation of the Midstream HVAC Channel, and it is expected to include air source heat pumps (ASHPs), central air conditioners (CACs), ENERGY STAR certified advanced thermostats, ductless heat pumps, gas furnaces, and HPWHs. The Midstream HVAC Channel provides an incentive to distributors to reduce the sale price of high efficiency products. The distributor can keep up to 25% of the incentive payment to use at their discretion. At least 75% of the incentive payment must be passed through to contractors, who can choose to pass some or all of the incentive on to end-users, thus encouraging increased sales and installation of high-efficiency equipment. The Channel also provides education and training at distributor events, which is meant to increase contractor familiarity and acceptance of the equipment, in turn further increasing customer adoption.

Table 5 summarizes the evaluation activities planned for the Midstream HVAC Channel over the two-year evaluation plan period.

Table 5. MR SF Initiative – Midstream HVAC Channel Evaluation Activities – Two-Year Plan

Timing	Activity	2024	2025
Annual	Channel Material and Database Review	✓	✓
	Channel Staff Interviews	✓	✓
	Gross Impact Analysis – Database Review	✓	✓
	Gross Impact Analysis – IL-TRM Application Review	✓	✓
	Net Impact Analysis – SAG-Approved NTGR Application	✓	✓
	Market Effects Impact Analysis	✓	✓
Phased	Distributor Interviews		✓
	Contractor Interviews	✓	

The rationale for these activities is as follows:

- **2024:** The evaluation team will continue to conduct core impact and process evaluation activities, along with interviews with contractors, building off research conducted in 2023 with the goal of quantifying market effects and solidifying contractor free ridership and Channel NTGR findings. The 2024 impact evaluation will apply IL-TRM V12.0-recommended savings assumptions and SAG-approved NTGRs for all measures included in the Midstream HVAC Channel.

- **2025:** In the final year of the program cycle, the evaluation will consist of core impact and process evaluation activities and may include targeted data collection with participating distributors, if needed, based on changes to Channel offerings or implementation strategies; or the need to refine NTGR estimates.

3.1.3 MARKET RATE SINGLE FAMILY INITIATIVE – HOME EFFICIENCY CHANNEL

The MR SF Initiative's Home Efficiency Channel serves residential customers who do not qualify for the IQ Initiative (defined as those with an annual household income over 300% of the federal poverty level [FPL] by household size). The Channel first offers a Home Energy Assessment with a registered Program Ally to identify opportunities for larger building shell retrofits in their home. As part of the assessment, Program Allies install select energy-efficient direct install (DI) measures (e.g., low-flow showerheads), provide participants with educational materials on indoor air quality and American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) ventilation guidelines, and create a customized project report. The project report details the home's current state, identifies options for building shell retrofits, summarizes relevant available incentives, and estimates the total out-of-pocket costs for the proposed upgrades. Eligible retrofits include air sealing, bathroom exhaust fans, and various types of insulation (attic, wall, crawlspace, and rim joist). Following this report, participants may or may not choose to move forward with all or some of the project recommendations and associated incentives.

While the IQ Initiative covers most or all project costs, Home Efficiency Channel participants must pay a portion of project costs; and must also pay for their Home Energy Assessment. AIC offers on-bill financing to help participants pay for projects.

Table 6 summarizes the evaluation activities planned for the Home Efficiency Channel over the two-year evaluation plan period.

Table 6. MR SF Initiative – Home Efficiency Channel Evaluation Activities – Two-Year Plan

Timing	Activity	2024	2025
Annual	Initiative Material and Database Review	✓	✓
	Initiative Staff Interviews	✓	✓
	Gross Impact Analysis – Database Review	✓	✓
	Gross Impact Analysis – IL-TRM Application Review	✓	✓
	Net Impact Analysis – SAG-Approved NTGR Application	✓	✓
Phased	Participant Survey	✓	
Phased	Program Ally Survey		✓

The rationale for these activities is as follows:

- **2024:** This year will include core impact and process evaluation tasks, as well as a participant survey to gauge customer satisfaction with the participation experience, project funding strategies, and barriers to larger building shell and HVAC retrofits (among those who did not go through with a scope of work).
- **2025:** The final year of the program cycle will include core impact and process evaluation tasks as well as a survey with AIC Program Allies; a combination of those who have and have not participated in the Channel. According to Channel staff, one of the barriers to Home Efficiency Channel participation is limited Program Ally availability, as many Program Allies are more interested in completing IQ Initiative projects. This survey will

examine the real and perceived benefits of IQ over Home Efficiency projects, barriers to participation, and potential opportunities to grow Program Ally interest in the Home Efficiency Channel.

3.1.4 RESIDENTIAL KITS INITIATIVES

AIC delivers energy efficiency kits through three delivery channels across the Residential Program, collectively referred to as the Residential Kits Initiatives. The Initiatives are focused on reaching underserved communities within AIC service territory, promoting fundamental energy efficiency and conservation knowledge, providing no-cost energy saving measures, and starting households on a longer-term journey toward energy efficiency. While they share similar goals, these channels have distinct approaches and target customers. They include the following:

- **Direct Distribution Efficient Products (DDEP) Initiative – School Kits Channel**: This Channel provides school presentations and energy savings kits to students in participating middle school (largely 5th grade) classrooms. To qualify for participation, schools must be located within AIC territory and at least 50% of the student body must be enrolled in the national free and reduced lunch (FRL) program. By providing the kits in conjunction with energy conservation education in the classroom, AIC hopes to establish an interest in energy efficiency and reduce energy use in participating student homes. New in 2024, this also includes the Joint Utility School Kits Channel in partnership with Nicor Gas.
- **DDEP Initiative – High School Innovation Channel**: This Channel provides school presentations and energy savings kits to students in participating high school (9th – 12th grade) classrooms with a focus on enrolling schools within AIC service territory where at least 50% of the student body qualify for the national FRL program. Along with providing students with advanced energy education materials and energy-saving kits, this Channel incorporates workforce development education to promote interest in energy careers.
- **IQ Initiative – Community Kits Channel**: This Channel provides energy savings kits and educational materials to IQ customers. Customers are eligible for a kit if their household income is less than 300% of the FPL; take part in the Low Income Home Energy Assistance Program (LIHEAP); receive bill-pay assistance from AIC; or apply through a Market Development Initiative (MDI) Community Partner. Kits are distributed by community partners at community events and locations the target population may already be visiting, such as local food banks. Depending on customer account status, community kits include an electric, gas, and combination (dual fuel) kit.

AIC also occasionally provides kits on an ad-hoc basis throughout the Residential Program (past kit distribution efforts include Credit & Collections Kits, Food Bank Kits, and more). For the purposes of our evaluation planning, we will conduct impact evaluation for these kits under the tasks in this evaluation plan section.

Table 7 summarizes the evaluation activities planned for the Kits Initiatives over the two-year evaluation plan period.

Table 7. Residential Kits Initiatives Evaluation Activities – Two-Year Plan

Timing	Activity	2024	2025
Annual	Initiative Material and Database Review	✓	✓
	Initiative Staff Interviews	✓	✓
	Gross Impact Analysis – Database Review	✓	✓
	Gross Impact Analysis – IL-TRM Application Review	✓	✓
	Net Impact Analysis – SAG-Approved NTGR Application	✓	✓
Phased	IQ Community Kit Delivery Partner Interviews		✓

The rationale for these activities is as follows:

- **2024:** This year will include core impact and process evaluation tasks.
- **2025:** The final year of the program cycle will include core impact and process evaluation tasks as well as a deeper dive process evaluation for the IQ Community Kits Channel. We will work with AIC to set priorities for the process evaluation, but currently plan to do interviews with MDI Community Partners and any other kinds of delivery partners that directly provide kits to AIC customers or host kit distribution events.

3.1.5 INCOME QUALIFIED INITIATIVE – SINGLE FAMILY WHOLE HOME CHANNELS

The Income Qualified (IQ) Initiative includes three channels that provide low and moderate income households with in-home audits, direct install measures, building shell, and heating, ventilation, and air conditioning (HVAC) upgrades: the Single Family Channel, the CAA Channel, and the Joint Utility Channel. For evaluation purposes, the team addresses these channels as a group, given their similar design and measures, and refers to them collectively as the "Single Family Whole Home" channels. There are additional third party IQ Initiative channels, discussed in subsequent sections, which have significantly different target markets, designs, and/or evaluation needs.

The Single Family Whole Home channels provide no-cost Building Performance Institute (BPI) energy audits that identify building shell and HVAC retrofit opportunities and include a health and safety (H&S) evaluation. During the audit, implementation staff also install energy-efficient direct install (DI) measures such as LEDs, showerheads, faucet aerators, advanced power strips, pipe insulation, and advanced thermostats at no cost. Following the audit, customers may also receive additional retrofits (in some cases with a copayment for moderate-income customers) such as air sealing and insulation improvements, central air conditioner (CAC) replacements, and air source heat pump (ASHP) replacements. If needed, the program also seeks to address H&S needs. These channels also sometimes include ad-hoc offerings (e.g., kits and handouts at community events) that vary each year. Through the Single Family Whole Home channels, AIC also completes electrification projects targeting AIC electric customers who currently use propane for space heat and other end uses. The electrification projects have expanded the qualifications of the Single Family Whole Home channels, and now allows low income customers with an existing propane heating source to switch to a fully electric home.

- For the Single Family Channel, Walker-Miller Energy Services, in partnership with Leidos, and BPI-certified AIC Program Allies serve moderate and low income single family customers who are not also participating in the Illinois Home Weatherization Assistance Program (IHWAP). For 2024, an enhanced focus will be placed on low-income customers, with 90% of expected projects allocated to low-income customers and 10% to moderate income.
- For the CAA Channel, CAAs, with support from Leidos and Walker-Miller Energy Services, serve low-income customers that participate in the IHWAP program at the same time. The CAAs combine AIC and IHWAP funding to provide comprehensive energy efficiency and H&S improvements.
- The Joint Utility Channel began as a pilot and was scaled up to a full offering in 2022. It has similar design and implementation processes to the Single Family Channel but is a partnership between AIC and Nicor Gas to serve low and moderate income customers in shared utility territory. AIC partners with Leidos and Resource Innovations to implement this Channel. Beginning in 2024, the Channel will begin serving small multifamily properties (3 – 6 units).[5]

Table 8 summarizes the evaluation activities planned for the IQ Initiative's Single Family Whole Home Channels over the two-year evaluation plan period.

[5] We will track the number of multifamily properties served over 2024 within this Channel and assess whether it still makes sense to group the Joint Utility Channel within the Single Family Whole Home grouping.

Table 8. IQ Initiative – Single Family Whole Home Channels Evaluation Activities – Two-Year Plan

Timing	Activity	2024	2025
Annual	Initiative Material and Database Review	✓	✓
	Initiative Staff Interviews	✓	✓
	Gross Impact Analysis – Database Review	✓	✓
	Gross Impact Analysis – IL-TRM Application Review	✓	✓
	Net Impact Analysis – SAG-Approved NTGR Application	✓	✓
Phased	Evaluation of New Offerings (as applicable)	✓	✓
	Tree Planting Pilot Best Practices Review	✓	
	CAA Staffing Pilot Process Research	✓	
	Health and Safety Assessment (if desired)		✓

The rationale for these activities is as follows:

- **2024**: We will continue to conduct core process and impact evaluation activities and include the following additional efforts: a Tree Planting Pilot best practices review, focused on providing timely input on program design and targeting and process research for the CAA Staffing Pilot to provide feedback on the pilot and input on potential process improvements. We will work closely with AIC at the beginning of 2024 to further refine the focus of these efforts.
- **2025**: In the last year of the cycle, the evaluation team will scope targeted process evaluation research as needed based on changes in Initiative design and implementation, such as a H&S assessment.

3.1.6 INCOME QUALIFIED INITIATIVE – SMART SAVERS CHANNEL

The Smart Savers Channel is a third party offering that provides advanced thermostats at no-cost to IQ customers in qualifying ZIP codes. The overarching goals of the Channel are to achieve energy savings through advanced thermostat installation, reach customers who have not previously benefited from AIC's Residential Program, and act as an entry point into other AIC offerings for additional energy savings.

Customers in target IQ ZIP codes receive email invitations to apply online or by phone for a free advanced thermostat to install in their homes. Participants then select a Program Ally to install the device. After participants complete their journey through the Smart Savers Channel, AIC cross-promotes additional offerings, such as the IQ Single Family Channel or the Online Marketplace. Towards the end of 2023, AIC rolled out the Smart Self-Reliance Pilot (SSRP) which aims to install smart home technology in homes of people with paralysis and other mobility limitations. As part of this pilot, approximately 50 advanced thermostats are expected to be installed through the Smart Savers Channel.

Table 9 summarizes the evaluation activities planned for the IQ Initiative's Smart Savers Channel over the two-year evaluation plan period.

Table 9. IQ Initiative – Smart Savers Channel Evaluation Activities – Two Year Plan

Timing	Activity	2024	2025
Annual	Initiative Material and Database Review	✓	✓
	Initiative Staff Interviews	✓	✓

Timing	Activity	2024	2025
	Gross Impact Analysis – Database Review	✓	✓
	Gross Impact Analysis – IL-TRM Application Review	✓	✓
	Net Impact Analysis – SAG Approved NTGR Application	✓	✓
Phased	Participant Survey		✓
	Program Ally Interviews	✓	
	Additional Research (as applicable)	✓	✓

The rationale for these activities is as follows:

- **2024:** In addition to annual impact evaluation activities, we plan to conduct research with Program Allies who are integral to the implementation of the Smart Savers Channel. We will also assess the connections between Smart Savers, the SSRP, and the Accessibility Pilot.[6] There may also be opportunities to map participation between the pilots to help AIC refine future targets.
- **2025:** In addition to annual impact evaluation activities, we plan to conduct targeted process evaluation activities as needed in 2025, such as a participant survey. AIC frequently makes changes to optimize delivery for IQ customers and the evaluation team will earmark funds on an annual basis to address key emergent evaluation questions.

3.1.7 INCOME QUALIFIED INITIATIVE - MOBILE HOMES & AIR SEALING CHANNEL

The Mobile Homes & Air Sealing (MHAS) Channel is a third party offering that delivers energy efficiency and other improvements to IQ customers living in manufactured and mobile homes. The Channel provides kits with energy-saving products as well as larger weatherization and HVAC upgrades, including some mobile home-specific measures like "belly board" (i.e., subfloor) insulation. Customers will also receive energy literacy education. If needed, the program also seeks to address H&S needs. In addition, AIC and its partners are actively recruiting and training Program Allies to work on mobile home projects, as well as developing partnerships with CAAs and community-based organizations (CBOs) for Channel delivery and community engagement.

Table 10 summarizes the evaluation activities planned for the IQ Initiative's MHAS Channel over the two-year evaluation plan period.

Table 10. IQ Initiative – MHAS Channel Evaluation Activities – Two-Year Plan

Timing	Activity	2024	2025
Annual	Initiative Material and Database Review	✓	✓
	Initiative Staff Interviews	✓	✓
	Gross Impact Analysis – Database Review	✓	✓
	Gross Impact Analysis – IL-TRM Application Review	✓	✓
	Net Impact Analysis – SAG-Approved NTGR Application	✓	✓

In 2024 and 2025, we plan to conduct our core annual evaluation activities.

[6] The Accessibility Pilot is further described in Section 3.1.6.

3.1.8 INCOME QUALIFIED INITIATIVE – HEALTHIER HOMES CHANNEL

The Healthier Homes Channel is a third party offering that partners with healthcare providers and local community organizations to identify IQ or underserved households with a history of asthma or other respiratory ailments. AIC provides a suite of energy efficiency and health and safety services to deliver both energy bill savings and preventative care to these households. The offering includes an in-home health and energy assessment; various energy saving products like LEDs; larger weatherization and HVAC upgrades like air sealing and advanced thermostats; and indoor air quality (IAQ) improvement measures such as hypoallergenic bedding, mold remediation, IAQ monitors, and CO detectors. Some measures, such as dehumidifiers and air purifiers, are "hybrid measures" that intend to both save energy and improve IAQ.

Table 11 summarizes the evaluation activities planned for the IQ Initiative's Healthier Homes Channel over the two-year evaluation plan period.

Table 11. IQ Initiative – Healthier Homes Channel Evaluation Activities – Two Year Plan

Timing	Activity	2024	2025
Annual	Initiative Material and Database Review	✓	✓
	Initiative Staff Interviews	✓	✓
	Gross Impact Analysis – Database Review	✓	✓
	Gross Impact Analysis – IL-TRM Application Review	✓	✓
	Net Impact Analysis – SAG-Approved NTGR Application	✓	✓
Phased	Program Design Review	✓	
	In-Depth Interviews with Delivery Partners		✓
	In-Depth Interviews with Participants		✓
	Non-Energy Impact (NEI) Research	✓	

The rationale for these activities is as follows:

- **2024:** The evaluation team will provide core impact evaluation activities for any completed projects in 2024. This channel focuses on energy savings as well as health and other non-energy outcomes. As such, we will use the 2024 evaluation activities to understand best practices from similar offerings, develop a detailed program theory and logic model (PTLM), and conduct research to explore if NEIs exist for this Channel.
- **2025:** In addition to annual evaluation activities, we plan to interview delivery partners (e.g., Program Allies, healthcare providers, any other community partners) to further understand the implementation strategy and design of the Healthier Homes Channel, as well as conduct participant research, if needed.

3.1.9 INCOME QUALIFIED INITIATIVE - ACCESSIBILITY PILOT

The Accessibility Pilot is designed to enhance the lives of Ameren Illinois residential customers with disabilities through the installation of various smart home devices at no cost to customers of need. These smart devices are intended to enhance the functionality of the customer's home, fostering independence, heightened safety, and personal agency, all while helping them conserve energy. The potential measures installed include advanced thermostats, smart speakers, video doorbells, smart lighting and electrical outlet controls, and water saving measures. Customer education on the general functionality and features of the installed products is also offered. Installation of measures is customized based on the needs of the Channel participants and provided through a third party vendor, in partnership with AIC.

Table 12 summarizes the evaluation activities planned for the Accessibility Pilot over the two-year evaluation plan period.

Table 12. IQ Initiative – Accessibility Pilot Evaluation Activities – Two Year Plan

Timing	Activity	2024	2025
Annual	Initiative Material and Database Review	✓	✓
	Initiative Staff Interviews	✓	✓
	Gross Impact Analysis – Database Review	✓	✓
	Gross Impact Analysis – IL-TRM Application Review	✓	✓
	Net Impact Analysis – SAG-Approved NTGR Application	✓	✓
Phased	In-Depth Interviews with Delivery Partners		✓
	NEI Research	✓	

The rationale for these activities is as follows:

- **2024:** The evaluation team will provide core impact evaluation activities for any completed projects in 2024. Additionally, and conduct research to explore if NEIs exist for this pilot.
- **2025:** We plan to conduct our annual evaluation activities as well as conduct interviews with delivery partners involved in the implementation and outreach of the pilot.

3.1.10 MULTIFAMILY INITIATIVES

The Multifamily Initiatives include the Multifamily Channel of the Income Qualified Initiative, the Market Rate Multifamily Initiative, and the Public Housing Initiative. The Initiatives offer multifamily customers comprehensive property assessments, health and safety evaluations, in-unit and common area direct install measures, as well as deeper energy saving weatherization and HVAC measures.

The Initiatives use a "one-stop shop" (OSS) model, where AIC provides property managers with a concierge, called an Energy Advisor, to support them as they participate in one or more offerings across the entire AIC portfolio. Using this delivery strategy, AIC and its implementation partners strive to provide a seamless participation experience designed to overcome traditional barriers to participation, as well as barriers to implementing a broad set of energy efficiency upgrades typically offered through multiple discrete AIC offerings.

Table 13 summarizes the evaluation activities planned for the Multifamily Initiatives over the two-year evaluation plan period.

Table 13. Multifamily Initiatives Evaluation Activities – Two Year Plan

Timing	Activity	2024	2025
Annual	Initiative Material and Database Review	✓	✓
	Initiative Staff Interviews	✓	✓
	Gross Impact Analysis – Database Review	✓	✓
	Gross Impact Analysis – IL-TRM Application Review	✓	✓
	Net Impact Analysis – SAG-Approved NTGR Application	✓	✓

Timing	Activity	2024	2025
Phased	OSS Evaluability Assessment	✓	
	Multifamily Energy Advisor Interviews		✓
	Property Manager/Owner Survey	✓	
	Non-Participant Property Manager/Owner Survey		✓
	Tenant Survey		✓
	Analysis of Participation Trends	✓	
	Net-to-Gross Analysis for Market Rate Customers	✓	

The rationale for these activities is as follows:

- **2024:** The evaluation team will focus on core impact and process evaluation activities, as well as conduct primary research to monitor property managers' participation experience through the Initiatives, an evaluability assessment of the OSS delivery strategy, and an analysis of participation trends. Research with property managers will focus on process topics such as why property managers decided to participate in the Initiatives, what measures they did and did not install, and what measures they may or may not be planning to install in the future and why. Research with market rate customers will also include a net-to-gross component in which we will assess free ridership for the ductless heat pump measure.
- **2025:** The evaluation activities planned for the last year of the plan period mirror those conducted earlier in the cycle with targeted research planned with non-participating property managers/owners and Multifamily Energy Advisors. The team will also continue to analyze Initiative tracking data to understand the depth of savings achieved through the one-stop shop delivery strategy.

3.2 BUSINESS PROGRAM

3.2.1 STANDARD INITIATIVE

The Standard Initiative offers AIC private and public sector business customers fixed incentives for the installation of prescriptive energy efficiency measures. The Initiative primarily focuses on lighting retrofits, lighting controls, motors, HVAC equipment, steam traps, and specialty applications such as agricultural and refrigeration measures. In addition, the Building Operator Certification (BOC) offering, which provides training to building operators in AIC's service territory on how to reduce their facility's energy usage, is also included under the Standard Initiative.

Table 14 provides a summary of planned Standard Initiative evaluation activities for the years 2024-2025. Each year, the evaluation team will quantify gross and net electric energy, electric demand, and gas savings through a detailed engineering analysis and application of SAG-approved NTGRs.

Table 14. Standard Initiative Evaluation Activities – Two-Year Plan

Timing	Activity	2024	2025
Annual	Initiative Material & Database Review	✓	✓
	Initiative Staff Interviews	✓	✓
	Engineering Desk Review	✓	✓
	IL-TRM Application Review	✓	✓
	Net Impact Analysis – SAG-Approved NTGR	✓	✓
	Initiative Material & Database Review	✓	✓

3.2.2 CUSTOM INITIATIVE

The Custom Initiative offers incentives to AIC Business Program customers for energy efficiency projects involving equipment not covered through other AIC initiatives. Business customers often represent the highest potential for energy savings, but these savings frequently result from highly specialized equipment designed for particular industries or types of facilities. The Custom Initiative allows customers to propose additional measures and tailor projects to the specific needs of their facilities. It also provides an avenue for piloting new measures prior to incorporating them into the Standard Initiative.

The Custom Initiative is delivered to customers through several different channels. Two core offerings are typically responsible for all the savings claimed through the Initiative:

- The **Custom Incentives Channel** provides incentives for electric and gas measures not incentivized through other AIC offerings. Some examples of common Custom Incentives measures include compressed air improvements; energy management systems (EMS); and industrial process measures, including heat recovery, process heat, and improvements to steam systems.
- The **New Construction Lighting Channel** offers additional incentives for lighting measures in new construction projects.

Additionally, AIC offers several smaller channels through the Custom Initiative, including Metering and Monitoring, Feasibility Studies, Strategic Energy Management, Staffing Grants, Agricultural Energy Audits, and Building Energy Assessments. These offerings serve the purpose of engaging AIC's business customers more deeply with energy efficiency.

Table 15 provides a summary of planned evaluation activities for the years 2024-2025.

Table 15. Custom Initiative Evaluation Activities – Two-Year Plan

Timing	Activity	2024	2025
Annual	Initiative Material & Database Review	✓	✓
	Initiative Staff Interviews	✓	✓
	Engineering Desk Review	✓	✓
	On-Site M&V	✓	✓
	Net Impact Analysis – SAG-Approved NTGR	✓	✓
Phased	Net-to-Gross Research	✓	
	Process Evaluation Follow-up Research	✓	

Each year, the evaluation team will quantify gross and net energy and demand savings through detailed engineering analyses, including desk reviews and on-site M&V. In 2024, the evaluation team will conduct customer research to update the SAG-approved NTGRs for the Initiative as well as exploring limited process topics where possible. In addition, the evaluation team has reserved budget to support follow-up process research in 2024 based on the findings of the comprehensive process evaluation completed in 2023.

The evaluation team will continue to explore opportunities to refine the sampling approach historically used for the Custom Initiative, with an eye toward more end use-specific sampling, if possible. In addition, the evaluation team will continue to coordinate with the implementation team around efforts to improve the realization rates for the Initiative, including evaluation suggestions around templates for implementation data collection as well as ongoing early reviews of planned Custom Initiative projects to ensure accuracy in implementation savings estimates.

3.2.3 SMALL BUSINESS INITIATIVE

The Small Business Initiative incentivizes customers to install energy efficient products and perform energy saving retrofits. The Initiative is implemented by Program Allies with experience and training in servicing the target market, and is comprised of two channels:

- **Small Business Direct Install (SBDI):** This channel focuses on rapidly deployable lighting and refrigeration measures and targets financially and time constrained small businesses, non-profits, schools, and public sector customers. Eligible customers receive a free on-site assessment and assessment report outlining recommended measures, project costs, estimated energy savings, and estimated bill savings. The SBDI channel is the main driver of electric savings for the Initiative.
- **Small Business Energy Performance (SBEP):** This channel targets private and public facilities located in Empower communities.[7] Measures focus on building envelope upgrades, HVAC improvements, and other non-SBDI measures supported by participating Program Allies.

[7] Predominately non-White and/or economically-challenged communities.

Table 16 provides a summary of planned evaluation activities for the years 2024-2025.

Table 16. Small Business Initiative Evaluation Activities – Two-Year Plan

Timing	Activity	2024	2025
Annual	Initiative Material & Database Review	✓	✓
	Initiative Staff Interviews	✓	✓
	Engineering Desk Review	✓	✓
	IL-TRM Application Review	✓	✓
	Net Impact Analysis – SAG-Approved NTGR	✓	✓
Phased	SBDI Net-to-Gross Research	✓	
	Trade Ally Spillover Research	✓	

Each year, the evaluation team will conduct core impact and process activities to quantify and understand gross and net energy, demand, and gas savings from the Initiative. In addition, in 2024, the evaluation team will conduct research to update estimates of free-ridership for the SBDI channel and explore select process topics through a survey of SBDI participants. We will also survey participating trade allies to estimate spillover for the Initiative.

3.2.4 MIDSTREAM INITIATIVE

The Midstream Initiative provides incentives to distributors and wholesalers to reduce prices at the point of sale for efficient equipment. The goal is to increase the adoption of high efficiency equipment without requiring the end-customer to submit a rebate application. The Initiative includes three channels:

- **Midstream Lighting:** The Midstream Lighting Channel incentivizes the sale of linear LED tubes and mogul-based LED lamps at the distributor level and is a significant contributor of savings for the portfolio.
- **Midstream HVAC:** The Midstream HVAC Channel incentivizes the sale of air source heat pumps, single package and split air conditioners, advanced thermostats, notched V-belts, and air source heat pump water heaters.
- **Midstream Food Service:** The Midstream Food Service Channel incentivizes the sale of commercial food service equipment such as freezer/refrigerator doors, griddles, fryers, ovens, and broilers. This channel is implemented at a statewide level.

Table 17 provides a summary of planned evaluation activities for the years 2024-2025.

Table 17. Midstream Initiative Evaluation Activities – Two-Year Plan

Timing	Activity	2024	2025
Annual	Initiative Material & Database Review	✓	✓
	Initiative Staff Interviews	✓	✓
	Engineering Desk Review	✓	✓
	IL-TRM Application Review	✓	✓
	Net Impact Analysis – SAG-Approved NTGR	✓	✓

3.2.5 RETRO-COMMISSIONING INITIATIVE

The Retro-Commissioning (RCx) Initiative helps AIC business and public sector customers identify and implement no-cost and low-cost efficiency optimizations to achieve energy savings in existing energy-using systems. Over time, deferred maintenance and changing operating directives and practices can lead to inefficient operation of building systems. Retro-commissioning is a process that examines current operations relative to the needs of equipment owners and those served by the equipment and determines opportunities for increasing equipment efficiency through maintenance, system tune-ups, scheduling, and optimization of operations.

The Initiative includes the following channels:

- Large Facilities RCx
- Industrial Refrigeration
- Retro-Commissioning Lite
- Virtual Commissioning™[8]
- Monitoring-Based Retro-Commissioning

Secondary objectives of the Initiative include:

- Channeling participation into other AIC Business Program initiatives to implement cost-effective equipment replacements and retrofits.
- Developing a network of retro-commissioning service providers (RSPs) that will continue to operate in the AIC service territory.

Table 18 provides a summary of planned evaluation activities for the years 2024-2025.

Table 18. Retro-Commissioning Initiative Evaluation Activities – Two-Year Plan

Timing	Activity	2024	2025
Annual	Initiative Material & Database Review	✓	✓
	Initiative Staff Interviews	✓	✓
	Engineering Desk Reviews	✓	✓
	Verification Activities	✓	✓
	Engineering Analysis	✓	✓
	Net Impact Analysis – SAG-Approved NTGR	✓	✓
Phased	NTG Research		✓

Each year, the evaluation team will quantify gross and net energy, demand, and gas savings through detailed engineering analysis and verification activities. In 2025, the evaluation team will conduct research to update the NTGRs used to calculate the Initiative's net savings.

[8] While the Virtual Commissioning Channel is a component of the Retro-Commissioning Initiative, its evaluation plan is provided separately in Section 3.2.6 due to substantial differences in required evaluation activities.

3.2.6 VIRTUAL COMMISSIONING CHANNEL

Virtual Commissioning (VCx) is an approach that remotely targets the traditionally hard-to-reach customer segment of small and medium business customers to support low- and no-cost energy-saving measures. The VCx approach leverages Advanced Metering Infrastructure (AMI) data to support targeted insights for hard-to-reach customers through the design, implementation, and evaluation phases of the channel.

Power TakeOff uses their internal software to complete an initial analysis of AMI data from AIC's small and medium business customers to identify prospective participants. Power TakeOff then uses the outcomes of this analysis to remotely identify opportunities for low- and no-cost energy-saving improvements at the participants' facilities. These opportunities commonly include HVAC system modifications and lighting scheduling adjustments.

Power TakeOff energy advisors then contact potential participants to share the results of the analysis, confirm the energy-saving opportunities, and verify facility characteristics. After participants implement the recommended changes, Power TakeOff develops individual facility-level regression models using the participants' pre- and post-participation energy and gas consumption to estimate savings. The models must meet certain criteria for robustness in order for Power TakeOff to claim savings. If a project both demonstrates continued savings for three months and meets the model robustness criteria, Power TakeOff can claim annualized savings for the project for the program year.

Table 19 provides a summary of planned evaluation activities for the years 2024-2025.

Table 19. Virtual Commissioning Channel Evaluation Activities – Two-Year Plan

Timing	Activity	2024	2025
Annual	Initiative Material & Database Review	✓	✓
	Initiative Staff Interviews	✓	✓
	Annual Impact Analysis (Advanced Measurement & Verification [AM&V])	✓	✓
	Net Impact Analysis – SAG-Approved NTGR	✓	✓
Phased	NTG Research	✓	

Each year, the evaluation team will quantify gross and net energy and demand savings through AM&V modeling techniques. In 2024, the evaluation team will conduct customer research to update the SAG-approved NTGR for the channel as well as exploring limited process topics where possible.

3.2.7 STREETLIGHTING INITIATIVE

The Streetlighting Initiative incentivizes the replacement of streetlighting using high-pressure sodium (HPS) and mercury vapor (MV) lighting with energy-efficient LED technology. The Initiative targets streetlighting for upgrades through two channels:

- **Municipality-Owned Streetlighting (MOSL):** Through this channel, AIC targets municipal customers who own their streetlighting fixtures. Incentives are provided to encourage customers to replace existing MV and HPS streetlights with LED streetlights.
- **Utility-Owned Streetlighting (UOSL):** Through this channel, AIC targets municipal customers who have AIC-owned streetlighting fixtures. Early replacement of functioning HPS and MV streetlights with LED streetlights is available to customers through the Initiative for a per-fixture fee. The Initiative incentivizes customers to request early replacement of these fixtures and provides an incentive to decrease the per-fixture cost of the early replacement

to customers. In addition, through this channel, AIC claims savings from ongoing replacement of existing AIC-owned HPS streetlighting with LED streetlights upon burnout.

Table 20 provides a summary of planned evaluation activities for the years 2024-2025.

Table 20. Streetlighting Initiative Evaluation Activities – Two-Year Plan

Timing	Activity	2024	2025
Annual	Initiative Material & Database Review	✓	✓
	Initiative Staff Interviews	✓	✓
	Engineering Desk Review	✓	✓
	IL-TRM Application Review	✓	✓
	Net Impact Analysis – SAG-Approved NTGR	✓	✓
Phased	Municipality-Owned Streetlighting NTG Research		✓

The evaluation team will conduct core process and impact evaluation efforts in each year of the cycle to ensure accurate quantification and exploration of energy savings produced by the Streetlighting Initiative.

3.3 VOLTAGE OPTIMIZATION PROGRAM

Throughout Plan 6, AIC will operate and claim savings from the Voltage Optimization Program (VO Program) as part of its energy efficiency portfolio. In this section, we discuss the VO Program and outline the anticipated evaluation activities for the Program from 2024-2025.

Voltage optimization is a form of energy efficiency technology implemented by electric utilities at the distribution substation or circuit level that optimizes voltage levels along distribution circuits to reduce electricity usage. There are two main VO technologies: Conservation Voltage Reduction (CVR) and Volt-VAR Optimization (VVO). CVR reduces customer energy consumption by reducing line voltage and VVO improves the power factor to reduce line losses. AIC implements hardware and software solutions using VO technologies. Once implemented, both VO technologies are intended to operate 24 hours a day, 365 days a year.

AIC launched its VO Program in 2018, leveraging experience gained from a 2012 VO pilot project. Since 2018, AIC has been installing hardware, software, and communications components on selected feeders on a phased basis. During the 2018-2021 plan period, AIC successfully deployed and claimed savings from VO on 324 circuits. During Plan 6, AIC initially expected to deploy VO on 723 additional circuits, culminating in 1,047[9] total circuits to be deployed by 2024.

As defined in the AIC Voltage Optimization Plan,[10] AIC claims savings only for VO circuits that were operational during a full calendar year. Therefore, each evaluation of the VO Program evaluation analyzes circuits deployed in the prior calendar year.

Table 21 outlines the planned evaluation activities for the VO Program during the evaluation period.

[9] The number of circuits planned for VO deployment was determined based on calculated assumptions, industry results, and past AIC VO pilot results, but AIC noted the actual number of feeders with VO could increase based on deployment results.

[10] Ameren Illinois Voltage Optimization Plan, filed in ICC Docket 18-0211 on January 25, 2018. Accessed at: https://www.icc.illinois.gov/downloads/public/edocket/463457.pdf.

Table 21. Voltage Optimization Program Evaluation Activities – Two Year Plan

Timing	Activity	2024	2025
Annual	Program Staff Interviews	✓	✓
	Data Request and Materials Review	✓	✓
	Electric Energy Impact Analysis (Modeling & IL-TRM Algorithm Application)	3x	3x
	Peak Demand Impact Analysis (Modeling & IL-TRM Algorithm Application)	✓	✓
	Verification of VO Deployment	✓	✓
Phased	Ad-Hoc VO Program Support	As needed	

In each year, we will conduct interviews with program staff and request and review program materials to ensure we are up to date on the status of the VO Program.

The VO Program is a major component of the AIC Plan 6 portfolio and is expected to account for 17-18% of AIC's total achieved electric energy savings annually throughout Plan 6. Accordingly, the evaluation team will conduct three rounds of evaluation annually, providing two interim estimates of electric energy savings throughout each year before providing final estimates of energy and demand savings in the final evaluation report.

In addition, we expect to provide ad-hoc support to AIC on several VO Program items during 2024-2025, including but not limited to i) support around assessment of viability of additional VO Program investments, and ii) refining ongoing work focused on early forecasting of year-end savings on a per-circuit basis to aid AIC program management.

3.4 PILOTS AND EMERGING AREAS

Throughout the 2022-2025 cycle, we understand that AIC is likely to implement a number of pilot efforts that fall outside the bounds of the Residential, Business, and VO Programs as currently defined. To support pilot efforts, the evaluation team reserves budget every year to engage with AIC on issues of program design and evaluability. In addition, as available and based on guidance from AIC, the evaluation team reserves additional budget to support specific pilot research efforts. Based on early discussions with AIC, the evaluation team currently has developed research to support three pilot efforts in 2024 materially separate from other initiatives (the Luminaire Level Lighting Controls [LLLC] Pilot, Virtual SEM Pilot, and Energy Analyzer Pilot, discussed below).

Beyond additional discrete pilot efforts, we expect that AIC will continue to monitor discussions in Illinois around market transformation (MT), including but not limited to the following MT efforts currently being pursued by other Illinois utilities:

- ENERGY STAR Retail Products Platform (ESRPP)
- Advanced Windows
- Code Support/Advancement

We expect to participate in statewide discussions related to these efforts with the goals of staying engaged to ensure that discussion considers any specific details relevant to AIC and helping to inform AIC's decision-making relative to future emerging program designs and implementation.

3.4.1 LUMINAIRE LEVEL LIGHTING CONTROLS MARKET TRANSFORMATION PILOT

AIC is currently operating a Luminaire Level Lighting Controls (LLLC) Market Transformation Pilot. To date, AIC's Plan 6 portfolio has primarily focused on resource acquisition (RA) programs. In RA programs, the program implementer affects the decision-making and behaviors of individual actors (i.e., program participants), causing them to take actions that save energy compared to the actions they would have taken had it not been for the program intervention.

The LLLC Pilot, however, is an MT program. Theoretically, MT programs involve shifting away from focusing on individuals by changing the structure and function of an entire market. By doing so, MT programs have the potential to provide substantial benefits to society because the market dynamics the program influences further influence the actions of a much broader pool of market actors. MT programs, however, are generally more complex to design and implement because (1) they are aimed at affecting dynamic markets with an array of actors, (2) the timeframe under which MT programs operate is generally longer term, (3) the savings/impacts will be harder to measure, and (4) attribution claims will be more complicated and uncertain.

Given these considerations, in this multi-year evaluation plan, the evaluation team presents proposed evaluation activities over a three-year time horizon (2024-2026) to help provide clarity to AIC, ICC Staff, and SAG as to how the pilot will be evaluated over the next three years;[11,12] though this evaluation plan focuses on a three-year time horizon, the plan was designed to be repeated as program activities continue.

Table 22 summarizes the evaluation activities planned for the pilot over the three-year evaluation plan period.

Table 22. LLLC Pilot Evaluation Activities – 2024-2026

Timing	Activity	2024	2025	2026
Annual	Pilot Materials Review	✓	✓	✓
	Pre- and Post-Training Assessments with Program Allies	✓	✓	✓
	Market Actor Surveys (Market-Level Measurement)	✓	✓	✓
	Market Potential Indicator (MPI) Assessments	✓	✓	✓
	Monitor Lighting Market	✓	✓	✓
	Networked Lighting Control (NLC) and LLLC Sales Data Analysis	✓	✓	✓
	Mid-Year Data Analytics	✓	✓	✓
	Estimation of Market Transformation Savings	✓	✓	✓
Phased	Revisit Natural Market Baseline (NMB) and Assumptions			✓

The rationale for these activities is as follows:

- **2024:** In the third year of the LLLC Pilot, the evaluation team will complete a number of core evaluation activities designed to begin measuring any progress towards market transformation goals. As such, we will begin to provide assessments on the short-term MPIs specified in the program theory and logic model, collect total market unit data, and calculate total market savings under the current NMB assumptions.
- **2025 through 2026**: The evaluation team will continue to conduct core research to support annual impact and process evaluations. However, as the pilot matures, we expect to see broader shifts in the lighting controls market.

[11] AIC and the evaluation team agreed that a three-year time horizon was the appropriate timeframe over which to plan evaluation activities for the LLLC Pilot.

[12] Note that the evaluation team is currently only under contract through the 2025 program year.

As such, we will focus more evaluation activities on estimating the pilot's market transformation impacts. In 2026, we propose revisiting the NMB to determine whether the forecast and trends developed in 2023 are still accurate and appropriate for savings calculations.

3.4.2 VIRTUAL STRATEGIC ENERGY MANAGEMENT PILOT

AIC launched a Virtual Strategic Energy Management (VSEM) pilot in partnership with Power TakeOff in 2023 and plans to continue this effort in 2024.[13] The VSEM pilot is designed in accordance with the Consortium for Energy Efficiency's minimum elements for effective strategic energy management (SEM) and seeks to educate participants and enable them to manage their facility's energy usage in a holistic manner. Participants will receive the training, tools, and resources they need to develop and implement a continuous energy improvement plan. The implementation team will target recruitment activities toward customers that were previously engaged through the VCx channel and will target low and no-cost operational, maintenance, and behavioral improvements.

Table 23 provides a summary of planned evaluation activities for 2024-2025. All 2025 activities are to be determined depending on the status and performance of the pilot.

Table 23. Virtual Strategic Energy Management Pilot Evaluation Activities – Two-Year Plan

Timing	Activity	2024	2025
As Needed	Initiative Material and Database Review	✓	TBD
	Initiative Staff Interviews	✓	TBD
	Impact Analysis	✓	TBD

3.4.3 ENERGY ANALYZER PILOT

AIC is considering launching an Energy Analyzer Pilot with nonresidential customers in 2024. Energy analyzer platforms typically enable customers to better manage their energy usage by providing them with several tools, including functionality to explore their energy usage at a granular level, benchmarking of their current energy usage against their historic usage, and benchmarking against peer facilities in the same sector. The platforms can also provide customers with information about utility energy efficiency offerings in which they may be eligible to participate. Past research in Illinois[14] has indicated that such programs can lead to significant energy savings through capital, behavioral, and operational upgrades made by customers attributed to the use of energy analyzer tools. We provide this evaluation plan to outline how we would expect to evaluate energy savings from this pilot should AIC decide to implement it.

Table 24 provides a summary of planned evaluation activities for 2024-2025. All 2025 activities are to be determined depending on the status and performance of the pilot.

Table 24. Energy Analyzer Pilot Evaluation Activities – Two-Year Plan

Timing	Activity	2024	2025
As Needed	Initiative Material and Database Review	✓	TBD
	Initiative Staff Interviews	✓	TBD

[13] At this time, the 2023 pilot has not yet been evaluated.

[14] PY9 ComEd Business Energy Analyzer Program Impact Evaluation Report. Navigant. August 22, 2018. https://www.ilsag.info/wp-content/uploads/SAG_files/Evaluation_Documents/ComEd/ComEd_EPY9_Evaluation_Reports_Final/ComEd_PY9_Agentis_BEA_Evaluation_Report_2018-08-22.pdf

Timing	Activity	2024	2025
	Impact Analysis	✓	TBD

3.5 CROSS-CUTTING EVALUATION ACTIVITIES

As part of the evaluation process, the team will also perform a number of cross-cutting, portfolio-level activities. These activities include 1) recurring annual compliance and stakeholder engagement activities and 2) specific evaluation research studies to meet identified needs. Sections 3.5.1 and 3.5.2, respectively, provide an outline of these activities. As detailed in Sections 4.7 and 4.8, the team will also utilize an outside quality assurance consultant to ensure quality of evaluation deliverables, as well as conduct annual integrated reporting activities to summarize AIC's programmatic results.

3.5.1 COMPLIANCE AND STAKEHOLDER ENGAGEMENT

Table 25 outlines cross-cutting compliance and stakeholder engagement activities that will be completed as part of the 2024 evaluation. These activities are described further in Section 4.5.

Table 25. Compliance and Stakeholder Engagement Activities – Two-Year Plan

Timing	Activity	2024	2025
Annual	Gas Adjustable Savings Goals Review	✓	✓
	Economic and Employment Impact Analysis	✓	✓
	Illinois Statewide Technical Reference Manual Support	✓	✓
	Cost-Effectiveness Analysis and Support	✓	✓
	Regulatory Testimony in Rider EE Docket	✓	✓
	SAG Participation	✓	✓
	NTG Working Group Participation and Facilitation	✓	TBD

3.5.2 EVALUATION RESEARCH

Table 26 outlines cross-cutting evaluation research activities that will be completed as part of the 2024 evaluation. These activities are described further in Section 4.6.

Table 26. Evaluation Research Activities – Two-Year Plan

Timing	Activity	2024	2025
Phased	Non-Participating Contractor Research	✓	
	Heat Pump Market Research	✓	
	Societal Non-Energy Impacts (NEI) Update	✓	
	Model Update for Economic and Employment Impact Analysis	✓	
	Compressed Air EUL Research	✓	✓
	Arrearage Reduction Pilot Support	✓	

4. 2024 EVALUATION PLANS

In this section of the evaluation plan, we present detailed evaluation plans for research scoped as part of the 2024 evaluation of the AIC portfolio.

As discussed in Section 3, evaluation efforts are not always organized in a way that perfectly aligns with portfolio organization. For example, we choose to group all three distinct AIC multifamily offerings (the Public Housing Initiative, all channels of the Market Rate Multifamily Initiative, and the Multifamily Channel of the Income Qualified Initiative) together for efficiency.

4.1 RESIDENTIAL PROGRAM

4.1.1 RETAIL PRODUCTS INITIATIVE

The AIC Retail Products Initiative includes several incentive-based channels, which offer discounts on a wide range of qualifying ENERGY STAR products. Customers can participate through the following channels:

- By receiving a POP discount on purchases of advanced power strips, air purifiers, bathroom vent fans, dehumidifiers, door sweeps, faucet aerators, showerhead kits, water dispensers, or LED lighting at participating retailers. AIC incentivizes EISA-exempt lighting (e.g., night lights and shop lights) at all retail locations, but only incentivizes general service (i.e., non-EISA-exempt) LEDs in locations deemed as IQ by Illinois stakeholders
- By visiting the AIC Online Marketplace to purchase advanced thermostats, advanced power strips, air purifiers, door sweeps, faucet aerators, showerhead kits, wall plate gaskets, or weatherstripping;
- By submitting an online or mail-in rebate application for the purchase of qualified products (such as advanced thermostats, air purifiers, and refrigerators) at brick and mortar or online retailers;
- By registering online and downloading a coupon for qualified advanced thermostats that can be used to receive a POP discount at select brick and mortar or online retailers.

The assessment of the 2024 Retail Products Initiative includes core process and impact analysis tasks, as well as a participant survey.

EVALUATION APPROACH

The 2024 assessment of the Retail Products Initiatives includes both process and impact analyses, as outlined in the following sections.

RESEARCH OBJECTIVES

IMPACT QUESTIONS

The impact evaluation will focus on core evaluation activities as well as include a participant survey. The last survey of the incentives-based channels occurred in 2020 and focused largely on advanced thermostats. As such, there are several measures which have never been evaluated for ISRs or NTGRs or have not been evaluated for some time. The 2024 impact evaluation will answer the following questions:

- What are the estimated gross electric energy, electric demand, natural gas, and other fuel impacts from the Initiative?

- What are the estimated net electric energy, electric demand, natural gas, and other fuel impacts from the Initiative?
- What are the first-year ISRs for products sold through incentive-based channels?
- What are the estimated NTGRs of products sold through incentive-based channels?

PROCESS QUESTIONS

The Retail Products Initiative reaches the most residential customers of any Residential Program offering by far, making it especially important to periodically assess how well the Initiative is serving those customers. Further, given its size, surveys for this Initiative offer an opportunity to collect important market information from many customers, which can inform AIC's offerings, marketing, and implementation strategies. Specifically, the Retail Products Initiative may be an important future vector for promoting electrification technologies. As such, we will use the survey to assess participant satisfaction, as well as interest and attitudes towards fuel-switching. The 2024 process evaluation will answer the following questions:

- How did the Retail Products Initiative perform according to AIC and implementation staff? What were the primary successes and challenges for the Initiative in 2024, and what were their respective key drivers and potential solutions?
- Was the Initiative implemented as planned in 2024? Were there any key adjustments to design or implementation processes in 2024, and what were the successes and challenges associated with those changes?
- How many customers participated in the Initiative overall, and in the various channels, and what products did they purchase? Approximately what proportion of participants are income qualified?
- How satisfied are participants with key aspects of the Initiative (e.g., rebate/discount amounts, Initiative marketing, time to receive post-purchase rebates, product quality, etc.), and what could improve customer satisfaction moving forward?
- How do participants first learn about the Initiative, and what are their preferred sources of future program information?
- How open are customers with existing gas heating and/or water heating equipment to adopting energy-efficient electric alternatives?

We will explore each of these questions through the activities described in this evaluation plan.

EVALUATION TASKS

Table 27 summarizes the 2024 evaluation activities planned for the Retail Products Initiative.

Table 27. Summary of Retail Products Initiative Evaluation Activities for 2024

Task	Impact	Process	Market	Details
Initiative Material and Database Review	✓	✓		Review the 2024 database, relevant administrative reports, and marketing and outreach materials to document Initiative design and any changes.
Initiative Staff Interviews		✓		Conduct interviews with AIC and implementation staff to further understand Channel performance, confirm design and implementation details, and review evaluation priorities.

Task	Impact	Process	Market	Details
Participant Survey	✓	✓	✓	Conduct an online survey of customers who purchased products incented by the Initiative. Customer feedback will inform ISRs and NTGRs as well as Initiative satisfaction, sources of awareness, preferred sources of information, and attitudes toward fuel switching. The estimated ISRs and NTGRs will be used to update SAG-approved values and the IL-TRM.
Impact Analysis	✓			Review Initiative tracking data to ensure accuracy, completeness, and that correct deemed input values and IL-TRM V12.0 specified algorithms are used in calculating gross savings. Determine 2024 net impacts using SAG-approved NTGR values.

We describe each of these activities in detail below.

TASK 1. INITIATIVE MATERIALS AND DATABASE REVIEW

The evaluation team will conduct a comprehensive review of all available Initiative materials and tracking data. Requests may include Initiative implementation plans, marketing plans and materials, the Online Marketplace website, and rebate application forms. We expect to submit a request early in Q2 to obtain materials and data to support evaluation activities, and again towards the end of the year for any other materials or data used throughout the year. We will also leverage the quarterly Residential Program tracking database extracts to support the evaluation tasks below.

Deliverable: Data requests *Deliverable Date:* Ongoing

TASK 2. INITIATIVE STAFF INTERVIEWS

The evaluation team will conduct up to six in-depth interviews, in two rounds, with AIC and implementation staff involved in the design and administration of the Retail Products Initiative. We will schedule the first round of interviews in Q2 to confirm details of Initiative design and implementation processes, gather staff feedback on performance to date, and review evaluation priorities. We will conduct another round of interviews towards the end of the program year to gather final feedback on Initiative performance and identify any additional design and implementation changes that occurred during the year.

Deliverable: Completed Interviews *Deliverable Date:* April and December 2024

TASK 3. PARTICIPANT SURVEY

The evaluation team will conduct an online survey with customers who purchased Initiative-incented products and for whom the Initiative tracks participant contact information (i.e., including Online Marketplace, post-purchase rebates, and pre-purchase coupon channels; and excluding the POP Channel). We will use these surveys to estimate ISRs and NTGRs for each product category where participation levels are adequate for sampling and Initiative staff anticipate the product to be offered in future years. We will also explore participant satisfaction with various aspects of the participation process (e.g., post-rebate application processes), incentive levels, and the incentivized products; as well as sources of Initiative awareness, preferred sources of information, and attitudes and interest towards electrification (fuel switching). We will set survey completion targets by product category based on participation levels, employing either a census approach (i.e., contacting all possible respondents) or random sampling. We will draw random samples of a size likely to achieve 10% relative precision at the 90% level of confidence (90/10) for ISR and NTGR estimates.

Based on participation levels across the first half of 2023, we anticipate being able to include at least the following measures in the survey:

- Advanced thermostats

- Air purifiers
- Clothes washers
- Electric clothes dryers
- Dehumidifiers
- Refrigerators

We may be able to include other measures, such as heat pump water heaters and pool pumps, pending participation levels. We anticipate leveraging the Q1 Residential Program tracking database extract to develop the sample, assuming there will be sufficient participation levels for priority measures. We will also consider leveraging late 2023 tracking data to supplement sampling, where needed. This will allow delivery of NTGR results in August 2024, ahead of the 2024 SAG NTG process.

Deliverable: Data collection instrument *Deliverable Date:* May 2024

Deliverable: Survey results memo *Deliverable Date:* August 2024

TASK 4. IMPACT ANALYSIS

The evaluation team will review all records in the Initiative database. We will check to ensure that the correct savings assumptions have been applied for each measure and that project data has been recorded fully and correctly. We will resolve any discrepancies found in the database and report on our findings.

We will use the savings parameters outlined in the IL-TRM V12.0 to estimate gross energy and demand savings for each measure. The evaluation team will use these values and data from the Channel tracking database to calculate gross Initiative savings. For all measures, we will calculate 2024 verified net savings by applying SAG-approved NTGRs to verified gross savings. If relevant and timely, we will also include available process-related results within this memo.

Deliverable: Interim impact analysis memo *Deliverable Date:* August 2024

Deliverable: Analysis in draft annual impact evaluation report *Deliverable Date:* March 2025

TASK 5. ANNUAL REPORTING

The evaluation team will include 2024 Initiative impacts in the draft Residential Program Annual Impact Evaluation Report. We will incorporate our responses to stakeholder feedback in a final report.

Deliverable: Chapter in draft annual impact evaluation report *Deliverable Date:* March 15, 2025

Deliverable: Chapter in final annual impact evaluation report *Deliverable Date:* April 30, 2025

EVALUATION BUDGET AND TIMELINE

Table 28 summarizes the timing and budget associated with each evaluation activity.

Table 28. Retail Products Initiative Evaluation Schedule and Budget for 2024

Task	Evaluation Activity	Deliverable Date	Budget
1	Initiative Material and Database Review	Ongoing	$5,600
2	Initiative Staff Interviews	April and December 2024	$7,100
3	Participant Survey	May and August 2024	$48,300
4	Impact Analysis	August 2024 and March 2025	$49,900
5	Draft Annual Impact Report	March 15, 2025	$20,400
	Comments from AIC and ICC Staff	Within 15 Business Days	
	Final Annual Report	April 30, 2025	
Total Budget			**$131,300**

4.1.2 MARKET RATE SINGLE FAMILY INITIATIVE – MIDSTREAM HVAC CHANNEL

The Market Rate Single Family Initiative's Midstream HVAC Channel is designed to influence distributor stocking and sales practices related to high efficiency HVAC and heat pump water heater (HPWH) measures. 2024 is the fourth year of AIC's implementation of the Midstream HVAC Channel, and it is expected to include air source heat pumps (ASHPs), central air conditioners (CACs), ENERGY STAR certified advanced thermostats, ductless mini splits, gas furnaces, and HPWHs. The Midstream HVAC Channel provides an incentive to distributors to reduce the sale price of high efficiency products. The distributor can keep up to 25% of the incentive payment to use at their discretion. At least 75% of the incentive payment must be passed through to contractors, who can choose to pass some or all of the incentive on to end-users, thus encouraging increased sales and installation of high-efficiency equipment. The Channel also provides education and training at distributor events, which is meant to increase contractor familiarity and acceptance of the equipment, in turn further increasing customer adoption.

EVALUATION APPROACH

The assessment of the 2024 Midstream HVAC Channel includes both process and impact analyses, as outlined in the following sections.

RESEARCH OBJECTIVES

IMPACT QUESTIONS

Th evaluation team conducted contractor and distributor research in 2023 to estimate market effects and NTGRs for the Channel. However, there were some concerns related to the number of responses, the quality of the underlying tracking data, and the quality of some responses; all of which warrant further research in 2024. As such, we plan to interview additional contractors and ask additional and/or revised questions to better understand Channel influence and market effects. The 2024 impact evaluation will answer the following questions:

- What are the estimated gross electric energy, electric demand, natural gas, and other fuel impacts from the Channel?

- What are the estimated net electric energy, electric demand, natural gas, and other fuel impacts from the Channel?
- What is the estimated free-ridership from the Channel from the contractor perspective? What are the estimated NTGRs of equipment incentivized through the Channel?
- What are the estimated market effects from the Channel?
  - To what extent is eligible equipment being sold without Channel incentives to AIC customers and to what extent are those sales attributable to the Channel?
  - What are the net electric energy, peak demand, and natural gas savings from non-incented equipment?[15]

Note that the Illinois Net-to-Gross Working Group is currently considering updates to the Illinois protocol for estimating free-ridership from midstream programs. Should the revised approach materially differ from the existing approach, we may revise our evaluation approach, perhaps significantly, to align with the updated approach.

PROCESS QUESTIONS

The contractor interviews will focus on impacts, particularly market effects and free-ridership, but will also include some questions related to their experience with the Channel. The evaluation team will focus on answering the following process questions as part of the 2024 evaluation:

- How did the Channel perform according to AIC and implementation staff? What were the primary successes and challenges for the Channel in 2024, and what were their respective key drivers and potential solutions?
- Was the Channel implemented as planned in 2024? Were there any key adjustments to design or implementation processes in 2024, and what were the successes and challenges associated with those changes?
- How many and what kinds of incentivized measures were installed?
- How satisfied are contractors with key aspects of the Channel (e.g., interactions with distributors, education provided by AIC at distributor events, incentive amounts), and what could improve their experience moving forward?

We will explore each of these questions through the activities described in this evaluation plan.

EVALUATION TASKS

Table 27 summarizes the 2024 evaluation activities planned for the Midstream HVAC Channel.

Table 29. Summary of MR SF Initiative – Midstream HVAC Channel Evaluation Activities for 2024

Task	Impact	Process	Market	Details
Channel Material and Database Review	✓	✓		Review the 2024 database, relevant administrative reports, and marketing and outreach materials to document Channel design and any changes.
Channel Staff Interviews		✓		Conduct interviews with AIC and implementation staff to further understand Channel performance, confirm design and implementation details, and review evaluation priorities.

[15] We will refer to these impacts throughout this evaluation as "market effects," though the evaluation team notes that these could also be referred to and conceptualized as non-participant spillover.

Task	Impact	Process	Market	Details
Contractor Interviews	✓	✓		Estimate market effects associated with the Channel influences on contractor installations of Channel-qualifying but non-incented equipment. Update estimates of free-ridership from the contractor perspective based on this feedback, and potentially update Channel NTGRs as a result. If necessary, the estimated NTGRs will be used to update SAG-approved values. Collect additional feedback from contractors on their experience with the participation process.
Impact Analysis	✓			Review Channel tracking data to ensure accuracy, completeness, and that correct deemed input values and IL-TRM V12.0 specified algorithms are used in calculating gross savings. Determine 2024 net impacts using SAG-approved NTGR values.

We describe each of these activities in detail below.

TASK 1. CHANNEL MATERIALS AND DATABASE REVIEW

The evaluation team will conduct a comprehensive review of all Channel materials and tracking data. Requests may include Channel implementation plans, marketing plans and materials, and training materials. If relevant data is available from AIC and implementation staff, we may review the degree to which Midstream HVAC Channel participants are income-qualified or eligible for LIHEAP. We expect to submit a request early in Q2 to obtain materials and data to support evaluation activities, and again towards the end of the year for any other materials or data used throughout the year. We will also leverage the quarterly Residential Program tracking database extracts to support the evaluation tasks below.

Deliverable: Data requests *Deliverable Date:* Ongoing

TASK 2. CHANNEL STAFF INTERVIEWS

The evaluation team will conduct up to four in-depth interviews, in two rounds, with AIC and implementation team staff involved in the design and administration of the Home Efficiency Channel. We will schedule the first round of interviews in Q2 to confirm details of Channel design and implementation processes, gather staff feedback on performance to date, and review evaluation priorities. We will conduct another round of interviews towards the end of the program year to gather final feedback on Channel performance and identify any additional design and implementation changes that occurred during the year.

Deliverable: Completed Interviews *Deliverable Date:* April and December 2024

TASK 3. CONTRACTOR INTERVIEWS

The evaluation team will conduct at least 15 in-depth interviews with contractors who installed equipment incented by the Midstream HVAC Channel in 2023 or 2024. Contractor information is not included in tracking data, so we will rely on available contacts provided by Channel staff or distributors, supplemented to the degree possible by HVAC and/or plumbing contractor contacts from the previous AIC downstream HVAC rebate offering. We will also consider using alternative sources of data, such as purchased market actor lists, to ensure that we have a robust sample to support data collection.

These interviews will focus on supplementing market effects and NTGR research conducted with distributors and contractors as part of the 2023 evaluation, which was limited by availability of participating contractor contacts and reliability of distributor estimates of rebate-qualifying but non-incented equipment. To support estimation of market effects, we will use contractor feedback to quantify each contractor's installations (and electric and gas savings) associated with both Channel-incentivized equipment and eligible but non-incented equipment (i.e., high-efficiency equipment installed in eligible AIC customers' homes). We will also ask Channel influence questions to either verify or

update the contractor free ridership and Channel NTGR estimates we developed in 2023. Further, we will include process-focused questions to solicit contractors' feedback about their experience with the Midstream HVAC Channel.

Deliverable: Interview guide *Deliverable Date:* April 2024

Deliverable: Survey results memo *Deliverable Date:* August 2024

TASK 4. IMPACT ANALYSIS

The evaluation team will review all records in the Channel database. We will check to ensure that the correct savings assumptions have been applied for each measure and that project data has been recorded fully and correctly. We will resolve any discrepancies found in the database and report on our findings.

We will use the savings parameters outlined in the IL-TRM V12.0 to estimate gross energy and demand savings for each measure. The evaluation team will use these values and data from the Channel tracking database to calculate gross Channel savings. For all measures, we will calculate 2024 verified net savings by applying SAG-approved NTGRs to verified gross savings.

In addition to the year-end final impact analysis, we will complete and deliver an interim impact analysis memo in June 2024 to provide the implementation team with early feedback on the performance of the Channel. If relevant and timely, we will also include available process-related results within this memo.

Deliverable: Interim impact analysis memo *Deliverable Date:* June 2024

Deliverable: Analysis in draft annual impact evaluation report *Deliverable Date:* March 2025

TASK 5. REPORTING

The evaluation team will include 2024 Channel impacts in the draft Residential Program annual impact evaluation report. We will incorporate our responses to stakeholder feedback in a final report.

Deliverable: Chapter in draft annual impact evaluation report *Deliverable Date:* March 15, 2025

Deliverable: Chapter in final annual impact evaluation report *Deliverable Date:* April 30, 2025

EVALUATION BUDGET AND TIMELINE

Table 30 summarizes the timing and budget associated with each evaluation activity.

Table 30. MR SF Initiative – Midstream HVAC Channel Evaluation Schedule and Budget for 2024

Task	Evaluation Activity	Deliverable Date	Budget
1	Channel Material and Database Review	Ongoing	$6,300
2	Channel Staff Interviews	April and December 2024	$6,400
3	Contractor Interviews	April and August 2024	$41,400
4	Impact Analysis	June 2024 and March 2025	$38,200
5	Draft Annual Impact Report	March 15, 2025	$18,000
	Comments from AIC and ICC Staff	Within 15 Business Days	
	Final Annual Report	April 30, 2025	
Total Budget			**$110,300**

4.1.3 MARKET RATE SINGLE FAMILY INITIATIVE – HOME EFFICIENCY CHANNEL

The Market Rate Single Family Initiative's Home Efficiency Channel serves residential customers who do not qualify for the IQ Initiative (defined as those with an annual household income over 300% the FPL, by household size). The Channel first offers a Home Energy Assessment with a registered Program Ally to identify opportunities for larger building shell retrofits in their home. As part of the assessment, Program Allies install select energy-efficient DI measures (e.g., low-flow showerheads), provide participants with educational materials on indoor air quality and ASHRAE ventilation guidelines, and create a customized project report. The project report details the home's current state, identifies options for building shell retrofits, summarizes relevant available incentives, and estimates the total out-of-pocket costs for the proposed upgrades. Eligible retrofits include air sealing, bathroom exhaust fans, and various types of insulation (attic, wall, crawlspace, and rim joist). Following this report, participants may or may not choose to move forward with all or some of the project recommendations and associated incentives.

While the IQ Initiative covers most or all project costs, Home Efficiency Channel participants must pay a portion of project costs; and must also pay for their Home Energy Assessment. AIC offers on-bill financing to help participants pay for projects.

EVALUATION APPROACH

The 2024 assessment of the Home Efficiency Channel includes both process and impact analyses, as outlined in the following sections.

RESEARCH OBJECTIVES

IMPACT QUESTIONS

The 2024 impact evaluation will answer the following questions:

- What are the estimated gross electric energy, electric demand, natural gas, and other fuel impacts from the Channel?
- What are the estimated net electric energy, electric demand, natural gas, and other fuel impacts from the Channel?

PROCESS QUESTIONS

The Home Efficiency Channel launched in 2021 and has experienced limited, but growing participation over time. The evaluation team anticipates that in 2024 there will be sufficient participation to collect customer feedback on the Channel for the first time. Customer research is warranted as there are likely more barriers to participating in Home Efficiency compared to the IQ Channel, including increased out-of-pocket costs and limited Program Ally availability. The evaluation team will focus on answering the following questions as part of 2024 process evaluation activities:

- How did the Home Efficiency Channel perform according to AIC and implementation staff? What were the primary successes and challenges for the Channel in 2024, and what were their respective key drivers and potential solutions?
- Was the Channel implemented as planned in 2024? Were there any key adjustments to design or implementation processes in 2024, and what were the successes and challenges associated with those changes?
- How many customers participated in the Channel overall? What proportion of participants received recommendations for larger building shell retrofits, and what proportion completed them? What proportion used AIC on-bill financing to pay for retrofit projects?

- What is the self-reported income range for households? How close or far is the typical Home Efficiency participant from the 299% FPL threshold for IQ (i.e., are participants typically borderline market rate, or more affluent)?
- What are participants' self-reported abilities to access affordable financing? What level of awareness and interest do they have in AIC on-bill financing?
- Are participants satisfied with Channel elements (Home Energy Assessment, direct install measures, customized project report, incentive amounts, and incentivized retrofit upgrades) and in what ways could these elements be improved in the future?
- Among participants who completed a recommended building shell retrofit (henceforth, "full participants"), how did they pay for project costs not covered by incentives? What was the relative influence of the Channel and its incentives on participants' decision to complete retrofit projects, compared to other funding sources (e.g., financing, federal tax credits)?
- Among those who completed a Home Energy Assessment but did not move forward with any of the recommended building shell retrofits (henceforth, "partial participants"), what prevented them from moving forward and under what conditions would they have been more likely to pursue the recommendations?

We will explore each of these questions through the activities described in this evaluation plan.

EVALUATION TASKS

Table 31 summarizes the 2024 evaluation activities planned for the Home Efficiency Channel.

Table 31. Summary of MR SF Initiative – Home Efficiency Channel Evaluation Activities for 2024

Task	Impact	Process	Market	Details
Channel Material & Database Review	✓	✓		Review the 2024 database, relevant administrative reports, and marketing and outreach materials to document Channel design and any changes.
Channel Staff Interviews		✓		Conduct interviews with AIC and implementation staff to further understand Channel performance, confirm design and implementation details, and review evaluation priorities.
Participant Survey		✓	✓	Conduct a survey with Home Efficiency Channel full and partial participants to further understand participant satisfaction with Channel elements, how participants funded installed measures, the relative influence of the Channel on decision-making, and partial participants' barriers to pursuing measures.
Impact Analysis	✓			Review Channel tracking data to ensure accuracy, completeness, and that correct deemed input values and IL-TRM V12.0 specified algorithms are used in calculating gross savings. Determine 2024 net impacts using SAG-approved NTGR values.

We describe each of these activities in detail below.

TASK I. CHANNEL MATERIALS AND DATABASE REVIEW

The evaluation team will conduct a comprehensive review of all Channel materials and tracking data. Requests may include Channel implementation plans, marketing plans and materials, example project reports, Program Ally outreach materials and training materials, and any supplemental tracking data available on the status of partial participants. We expect to submit a request early in Q2 to obtain materials and data to support evaluation activities, and again towards the end of the year for any other materials or data used throughout the year. We will also leverage the quarterly Residential Program tracking database extracts to support the evaluation tasks below.

Deliverable: Data requests *Deliverable Date:* Ongoing

TASK 2. CHANNEL STAFF INTERVIEWS

The evaluation team will conduct up to four in-depth interviews, in two rounds, with AIC and implementation team staff involved in the design and administration of the Home Efficiency Channel. We will schedule the first round of interviews in Q2 to confirm details of Channel design and implementation processes, gather staff feedback on performance to date, and review evaluation priorities. We will conduct another round of interviews towards the end of the program year to gather final feedback on Channel performance and identify any additional design and implementation changes that occurred during the year.

Deliverable: Completed interviews *Deliverable Date:* April and December 2024

TASK 3. PARTICIPANT SURVEY

The evaluation team will survey Home Efficiency full and partial participants to explore participant satisfaction with Channel processes and opportunities to improve the Channel and its offerings moving forward. We will also determine how participants paid for project costs not covered by the Home Efficiency incentives and the relative influence of the Channel and its incentives on participants' decision to pursue their retrofit upgrade project compared to other sources of funding, where applicable. We will specifically determine awareness, interest, and use of AIC on-bill financing to pay for projects. For partial participants specifically, we will also explore their reasons for not pursuing the retrofits recommended in their Home Energy Assessment reports. For all respondents, we will collect relevant financial characteristics that affect the ability to pay for retrofits, such as employment status, self-reported income range, and self-reported access to affordable financing. We will recruit participants via email for a web survey and provide those who complete the survey with a $10 e-gift card.

Deliverable: Draft and final survey instrument *Deliverable Date:* July 2024

Deliverable: Process results provided in a memo *Deliverable Date:* October 2024

TASK 4. IMPACT ANALYSIS

The evaluation team will review all records in the Channel database. We will check to ensure that the correct savings assumptions have been applied for each measure and that project data has been recorded fully and correctly. We will resolve any discrepancies found in the database and report on our findings.

We will use the savings parameters outlined in the IL-TRM V12.0 to estimate gross energy and demand savings for each measure. The evaluation team will use these values and data from the Channel tracking database to calculate gross Channel savings. For all measures, we will calculate 2024 verified net savings by applying SAG-approved NTGRs to verified gross savings.

In addition to the year-end final impact analysis, we will complete and deliver an interim impact analysis memo in August 2024 to provide the implementation team with early feedback on the performance of the Channel. If relevant and timely, we will also include available process-related results within this memo.

Deliverable: Interim impact analysis memo *Deliverable Date*: August 2024

Deliverable: Analysis in draft annual impact evaluation report *Deliverable Date*: March 2025

TASK 5. ANNUAL REPORTING

The evaluation team will include 2024 Channel impacts in the draft Residential Program annual impact evaluation report. We will incorporate our responses to stakeholder feedback in a final report.

Deliverable: Chapter in draft annual Residential Program impact report *Deliverable Date:* March 15, 2025

Deliverable: Chapter in final annual Residential Program impact report *Deliverable Date:* April 30, 2025

EVALUATION BUDGET AND TIMELINE

Table 32 summarizes the timing and budget associated with each evaluation activity.

Table 32. MR SF Initiative – Home Efficiency Channel Evaluation Schedule and Budget for 2024

Task	Evaluation Activity	Deliverable Date	Budget
1	Channel Materials and Database Review	Ongoing	$5,300
2	Channel Staff Interviews	April and December 2024	$5,600
3	Participant Survey	July 2024 and October 2024	$43,800
4	Impact Analysis	August 2024 and March 2025	$31,500
5	Draft Annual Impact Report	March 15, 2025	$13,900
	Comments from AIC and ICC Staff	Within 15 Business Days	
	Final Annual Report	April 30, 2025	
Total Budget			**$100,100**

4.1.4 RESIDENTIAL KITS INITIATIVES

AIC delivers energy efficiency kits through three delivery channels across the Residential Program, collectively referred to as the Residential Kits Initiatives. The Initiatives are focused on reaching underserved communities within AIC service territory, promoting fundamental energy efficiency and conservation knowledge, providing no-cost energy saving measures, and starting households on a longer-term journey toward energy efficiency. While they share similar goals, these channels have distinct approaches and target customers. They include the following:

- **DDEP Initiative – School Kits Channel**: This Channel provides school presentations and energy savings kits to students in participating middle school (largely 5th grade) classrooms. To qualify for participation, schools must be located within AIC territory and at least 50% of the student body must be enrolled in the national free and reduced lunch (FRL) program. By providing the kits in conjunction with energy conservation education in the classroom, AIC hopes to establish an interest in energy efficiency and reduce energy use in participating student homes. New in 2024, this also includes the Joint Utility School Kits Channel in partnership with Nicor Gas.
- **DDEP Initiative – High School Innovation Channel**: This Channel provides school presentations and energy savings kits to students in participating high school (9th – 12th grade) classrooms with a focus on enrolling schools within AIC service territory where at least 50% of the student body qualify for the national FRL program. Along with providing students with advanced energy education materials and energy-saving kits, this Channel incorporates workforce development education to promote interest in energy careers.
- **IQ Initiative – Community Kits Channel**: This Channel provides energy savings kits and educational materials to IQ customers. Customers are eligible for a kit if their household income is less than 300% of the FPL; take part in LIHEAP; receive bill-pay assistance from AIC; or apply through an MDI Community Partner. Kits are distributed by

community partners at community events and locations the target population may already be visiting, such as local food banks. Depending on customer account status, community kits include an electric, gas, and combination (dual fuel) kit.

AIC also occasionally provides kits on an ad-hoc basis throughout the Residential Program (past kit distribution efforts include Credit & Collections Kits, Food Bank Kits, and more). For the purposes of our evaluation planning, we will conduct impact evaluation for these kits under the tasks in this evaluation plan section.

EVALUATION APPROACH

The assessment of the 2024 Residential Kits Initiatives includes both process and impact analyses, as outlined in the following sections.

RESEARCH OBJECTIVES

IMPACT QUESTIONS

The overall objective of the impact evaluation is to estimate electric energy, peak demand, and natural gas impacts from the Initiatives. As such, the 2024 impact evaluation will answer the following questions:

- What are the estimated gross electric energy, electric demand, natural gas, and other fuel impacts from the Initiatives?
- What are the estimated net electric energy, electric demand, natural gas, and other fuel impacts from the Initiatives?

PROCESS QUESTIONS

The evaluation team will focus on answering the following questions as part of 2024 process evaluation activities:

- How did the Kits Initiatives perform according to AIC and implementation staff? What were the primary successes and challenges for the Initiatives in 2024, and what were their respective key drivers and potential solutions?
- Were the Initiatives implemented as planned in 2024? Were there any key adjustments to design or implementation processes in 2024, and what were the successes and challenges associated with those changes?
- How many kits were distributed through each Channel? How many IQ Community Kits distribution events were held? How many MDI Community Partners were involved in kit distribution? How many schools and teachers participated in the School Kits and High School Innovation channels?

We will explore each of these questions through the activities described in this evaluation plan.

EVALUATION TASKS

Table 33 summarizes the 2024 evaluation activities planned for the Residential Kits Initiatives.

Table 33. Summary of Residential Kits Initiatives Evaluation Activities for 2024

Task	Impact	Process	Market	Details
Initiatives Material & Database Review		✓		Review the 2024 database, relevant administrative reports, and marketing and outreach materials to document Initiatives design and changes.

Task	Impact	Process	Market	Details
Initiatives Staff Interviews		✓		Conduct interviews with AIC and implementation staff to further understand Initiatives performance, confirm design and implementation details, and review evaluation priorities.
Impact Analysis	✓			Review Initiatives tracking data to ensure accuracy, completeness, and that correct deemed input values and IL-TRM V12.0 specified algorithms are used in calculating gross savings. Determine 2024 net impacts using SAG-approved NTGR values.

We describe each of these activities in detail below.

TASK 1. INITIATIVES MATERIALS AND DATABASE REVIEW

The evaluation team will conduct a comprehensive review of all available Initiative materials and tracking data. Requests may include Initiatives implementation plans, marketing plans and materials, educational materials (e.g., in-class presentations, customer curriculum packets), any additional collateral provided to teachers, students, or parents (e.g., parent letter, Home Energy Worksheet, teacher Program Evaluation Form), and lists of participating schools, teachers, and community partners. We expect to submit a request early in Q2 to obtain materials and data to support evaluation activities, and again towards the end of the year for any other materials or data used throughout the year. We will also leverage the quarterly Residential Program tracking database extracts, as well as supplemental data provided by Leidos on kits savings calculations, to support the evaluation tasks below.

Deliverable: Data requests *Deliverable Date:* Ongoing

TASK 2. INITIATIVES STAFF INTERVIEWS

The evaluation team will conduct up to eight in-depth interviews, in two rounds, with AIC and implementation staff involved in the design and administration of the Kits Initiatives. We will schedule the first round of interviews in Q2 to confirm details of Initiatives design and implementation processes, gather staff feedback on performance to date, and review evaluation priorities. We will conduct another round of interviews towards the end of the program year to gather final feedback on Initiative performance and identify any additional design and implementation changes that occurred during the year.

Deliverable: Completed interviews *Deliverable Date:* April and December 2024

TASK 3. IMPACT ANALYSIS

The evaluation team will review all records in the Initiatives database. We will check to ensure that the correct savings assumptions have been applied for each measure and that project data has been recorded fully and correctly. We will resolve any discrepancies found in the database and report on our findings.

We will use the savings parameters outlined in the IL-TRM V12.0 to estimate gross energy and demand savings for each measure. The evaluation team will use these values and data from the Initiatives tracking database to calculate gross Initiatives savings. For all measures, we will calculate 2024 verified net savings by applying SAG-approved NTGRs to verified gross savings. These NTGRs are all 1.000 given that the Initiative targets predominately IQ communities and students.

In addition to the year-end final impact analysis, we will complete and deliver an interim impact analysis memo in June 2024 to provide the implementation team with early feedback on the performance of the Initiatives. If relevant and timely, we will also include available process-related results within this memo.

Deliverable: Interim impact analysis memo *Deliverable Date:* June 2024

Deliverable: Analysis in draft annual impact evaluation report *Deliverable Date:* March 2025

TASK 4. ANNUAL REPORTING

The evaluation team will include 2024 Initiatives impacts in the draft Residential Program annual impact evaluation report. We will incorporate our responses to stakeholder feedback in a final report.

Deliverable: Chapter in draft annual Residential Program impact report *Deliverable Date:* March 15, 2025

Deliverable: Chapter in final annual Residential Program impact report *Deliverable Date:* April 30, 2025

EVALUATION BUDGET AND TIMELINE

Table 34 summarizes the timing and budget associated with each evaluation activity.

Table 34. Residential Kits Initiatives Evaluation Schedule and Budget for 2024

Task	Evaluation Activity	Deliverable Date	Budget
1	Initiatives Materials and Database Review	Ongoing	$5,200
2	Initiatives Staff Interviews	April and December 2024	$6,200
3	Impact Analysis	June 2024 and March 2025	$23,300
4	Draft Annual Impact Report	March 15, 2025	$11,000
	Comments from AIC and ICC Staff	Within 15 Business Days	
	Final Annual Report	April 30, 2025	
Total Budget			**$45,700**

4.1.5 INCOME QUALIFIED INITIATIVE – SINGLE FAMILY WHOLE HOME CHANNELS

The IQ Initiative includes three channels that provide low and moderate income households with in-home audits, direct install measures, building shell, and HVAC upgrades: the Single Family Channel, the CAA Channel, and the Joint Utility Channel. For evaluation purposes, the team addresses these channels as a group, given their similar design and measures, and refers to them collectively as the "Single Family Whole Home" channels. There are additional third party IQ Initiative channels, discussed in subsequent sections, which have significantly different target markets, designs, and/or evaluation needs.

The Single Family Whole Home channels provide no-cost BPI energy audits that identify building shell and HVAC retrofit opportunities, and include a H&S evaluation. During the audit, implementation staff also install energy-efficient DI measures such as LEDs, showerheads, faucet aerators, advanced power strips, pipe insulation, and advanced thermostats at no cost. Following the audit, customers may also receive additional retrofits (in some cases with a copayment for moderate-income customers) such as air sealing and insulation improvements, CAC replacements, and ASHP replacements. If needed, the program also seeks to address H&S needs. These channels also sometimes include ad-hoc offerings (e.g., kits and handouts at community events) that vary each year. Through the Single Family Whole Home channels, AIC also completes electrification projects targeting AIC electric customers who currently use propane

for space heat and other end uses. The electrification projects have expanded the qualifications of the Single Family Whole Home channels, and now allow low income customers with an existing propane heating source to switch to a fully electric home.

- For the Single Family Channel, Walker-Miller Energy Services, in partnership with Leidos, and BPI-certified AIC Program Allies serve moderate and low income single family customers who are not also participating in the IHWAP. For 2024, an enhanced focus will be placed on low-income customers, with 90% of expected projects allocated to low-income customers and 10% to moderate income.
- For the CAA Channel, CAAs, with support from Leidos and Walker-Miller Energy Services, serve low-income customers that participate in the IHWAP program at the same time. The CAAs combine AIC and IHWAP funding to provide comprehensive energy efficiency and H&S improvements.
- The Joint Utility Channel began as a pilot and was scaled up to a full offering in 2022. It has similar design and implementation processes to the Single Family Channel but is a partnership between AIC and Nicor Gas to serve low and moderate income customers in the shared utility territory of Bloomington-Normal. AIC partners with Leidos and Resource Innovations to implement this Channel. Beginning in 2024, the Channel will begin serving small multifamily properties (3 – 6 units).[16]

EVALUATION APPROACH

The 2024 evaluation of the IQ Initiative Single Family Whole Home Channels includes both process and impact analyses as outlined in the following sections.

RESEARCH OBJECTIVES

IMPACT QUESTIONS

The 2024 impact evaluation will answer the following questions:

- What are the estimated gross electric energy, electric demand, natural gas, and other fuel impacts from the Channels?
- What are the estimated net electric energy, electric demand, natural gas, and other fuel impacts from the Channels?

PROCESS QUESTIONS

The evaluation team will focus on answering the following questions as part of the 2024 process evaluation activities:

- Overarching
  - What implementation challenges occurred in 2024 for the Channels, and how did IQ staff overcome them?
  - What were the biggest successes for the Channels in 2024? What were the biggest drivers behind these successes?
  - How well are AIC and its implementation partners working together to achieve the goals of the Channels? Are there any ways to improve the efficiency of their coordination?
- How many single-family customers participated in the Channels? Has participation met expectations?

[16] We will track the number of multifamily properties served over 2024 within this Channel and assess whether it still makes sense to group the Joint Utility Channel within the Single Family Whole Home grouping.

- Did participation for the Single Family Channel align with the 90/10 split for low and moderate customers? If not, why?

- Were multifamily customers served by the Joint Utility Channel? If so, how many? Has participation met expectations?
- How comprehensively are the Channels serving customers? What share of participants are receiving each type of measure offered by the Channels? What is the average number of measures installed by Channel?
- What has been the impact on participation resulting from the expanded qualifications around electrification projects, which now allows low-income customers with propane heating source to switch to a fully electric home?
- Tree Planting Pilot
  - What types of communities benefit from tree planting? Which communities within AIC territories would benefit most, based on existing metrics and methodologies such as the Tree Equity Score?[17]
  - How could the current pilot design be optimized, based on existing best practices? What selection criteria should be implemented for tree planting, based on best practices?
  - What pilot implementation processes have worked well for staff and what could be improved? Are there additional partners, such as regional planning commissions like the Champaign County Regional Planning Commission, that could be involved to improve the implementation of the pilot?
- CAA Staffing Pilot
  - How was the CAA Staffing Pilot implemented in 2023, and what changes have been made in 2024? What are the underlying reasons for these changes?
  - What pilot implementation processes have worked well and what could be improved?
  - Did the focus on building staff capacity address the needs of CAAs? What needs do CAAs have that have not yet been addressed?
  - How has the pilot contributed to perceived CAA Channel resilience and/or success?

We will explore each of these questions through the activities described in this evaluation plan.

EVALUATION TASKS

Table 35 summarizes the 2024 evaluation activities planned for the IQ Initiative Single Family Whole Home Channels.

Table 35. Summary of IQ Initiative – Single Family Whole Home Channels Evaluation Activities for 2024

Task	Impact	Process	Market	Details
Channel Staff Interviews		✓		Conduct interviews with AIC and implementation staff to document Channel design and implementation for 2024 and explore Channel performance.
Channel Material and Database Review	✓	✓		Review the 2024 database, relevant administrative reports, and marketing and outreach materials to document Channel design and any changes.
Impact Analysis	✓			Review Channel tracking data for accuracy, completeness, and to ensure that correct deemed input values and IL-TRM V12.0 specified algorithms are used in calculating gross savings. Determine 2024 net impacts using SAG-approved NTGR values.

[17] https://www.treeequityscore.org/

Task	Impact	Process	Market	Details
Tree Planting Pilot Best Practices Review		✓		Provide input on program design best practices, metrics/methodologies for selection criteria, and potential partnerships by conducting a literature review, reviewing existing metrics/methodologies, and interviewing staff.
CAA Process Research		✓		In depth interviews with CAA program staff (6 – 8 interviews), review of documentation

We describe each of these activities in detail below.

TASK 1. CHANNEL STAFF INTERVIEWS

We will conduct two rounds of interviews with the AIC Channel managers and implementation staff. We will schedule the first round in Q2 2024 to discuss progress to date, planned or executed changes to Channel design and implementation, and discuss the goals of the planned research activities. We will also discuss planned or executed marketing and outreach efforts, any planned ad-hoc offerings (e.g., kits or events), and any opportunities or challenges Channel staff have faced or anticipate they will face in 2024. We will conduct another round of interviews in Q4 2024 to get retrospective feedback on Channel performance and implementation challenges that occurred during the year. We anticipate conducting four interviews per round (eight total).

Deliverable: Completed interviews *Deliverable Date:* May and December 2024

TASK 2. CHANNEL MATERIALS AND DATABASE REVIEW

For each Channel, we will review Channel materials, including implementation plans, marketing plans and collateral, and tracking databases to assess Channel implementation and provide recommendations for improvement, where applicable. We request extracts from AMPLIFY on a regular basis and will continue to communicate with AIC and Leidos about data needs.

Deliverable: Data requests *Deliverable Date*: Ongoing

TASK 3. IMPACT ANALYSIS

The 2024 evaluation will include gross and net impact estimates. To estimate verified gross impacts associated with measures installed through the Single Family Channels, we will conduct an IL-TRM application review for all projects. We will review Channel tracking data to ensure that correct deemed input values and IL-TRM V12.0 algorithms are used in calculating savings and will replicate savings calculations to ensure accuracy. This step will produce gross savings estimates for 2024. In addition, we will calculate net savings by applying the SAG-approved NTGR of 1.0 to verified gross electric and gas savings.

In addition to the year-end final impact analysis, we will complete and deliver an interim impact analysis memo in August 2024 to provide the implementation team with early feedback on the performance of the Initiative. If relevant and timely, we will also include available process-related results within this memo.

Deliverable: Interim impact analysis memo *Deliverable Date*: August 2024

Deliverable: Analysis in draft annual impact evaluation report *Deliverable Date*: March 2025

TASK 4. TREE PLANTING PILOT BEST PRACTICES REVIEW

In 2023, AIC launched a tree planting pilot in Peoria in partnership with the City of Peoria and the community organization Trees Forever. The aim of the pilot is to help reduce energy costs and provide more shade on hot summer days. The evaluation team will provide timely input on best practices for tree planting programs, AIC community selection criteria, and additional partnership opportunities via a PowerPoint (PPT) report. This feedback will be based on

a literature review, review of existing metrics and methodologies, and staff interviews. We will present draft results to the AIC staff team through PPT to facilitate real-time feedback.

Deliverable: Completed staff interviews *Deliverable Date*: April 2024

Deliverable: Draft and final PowerPoint presentation of findings *Deliverable Date*: June 2024

TASK 5. CAA PROCESS RESEARCH

Through the end of 2022 and 2023, AIC launched a CAA Staffing Pilot to help address CAA staffing challenges. The pilot is now over as funding mechanisms have changed. The evaluation team will conduct process research to understand the current state of the CAA Channel and any lasting benefits of the pilot. The task activities will include in-depth interviews with CAA staff (6 – 8 interviews), follow-up interviews as needed with Channel and implementor staff (as these initial interviews will be conducted in Task 1), and document review. We will compile the results of this task into a memorandum that summarizes key findings and conclusions and provides recommendations for future design and delivery. Before finalizing the memo, we will facilitate a discussion with AIC and implementation staff to discuss results and recommendations.

Deliverable: Completed program staff interviews *Deliverable Date*: May 2024

Deliverable: Draft and final memo *Deliverable Date*: July 2024

TASK 6. ANNUAL REPORTING

The evaluation team will provide all impact findings in the Residential Program Annual Impact Evaluation Report in March 2025. The evaluation team will provide a draft report for AIC, ICC Staff, and SAG review and then deliver a final report that incorporates any comments from the review.

Deliverable: Chapter in draft annual Residential Program Impact Report *Deliverable Date*: March 15, 2025

Deliverable: Chapter in final annual Residential Program Impact Report *Deliverable Date*: April 30, 2025

EVALUATION BUDGET AND TIMELINE

Table 36 summarizes the timing and budget associated with each evaluation activity.

Table 36. IQ Initiative – Single Family Whole Home Channels Evaluation Schedule and Budget for 2024

Task	Evaluation Activity	Deliverable Date	Budget
1	Channel Staff Interviews	May and December 2024	$9,900
2	Channel Material and Database Review	Ongoing	$14,000
3	Impact Analysis	September 2024 and March 2025	$129,200
4	Tree Planting Pilot Assessment	June 2024	$34,600
5	CAA Staffing Pilot Process Research	October 2024	$24,700
6	Draft Annual Impact Report	March 15, 2025	$36,800
	Comments from AIC and ICC Staff	Within 15 Business Days	
	Final Annual Report	April 30, 2025	
Total Budget			**$249,200**

4.1.6 INCOME QUALIFIED INITIATIVE – SMART SAVERS CHANNEL

The Smart Savers Channel is a third party offering that provides advanced thermostats at no-cost to IQ customers. The overarching goals of the Channel are to achieve energy savings through advanced thermostat installation, reach customers who have not previously benefited from AIC's Residential Program, and act as an entry point into other AIC offerings for additional energy savings. This Channel is implemented through a third party vendor, Staples Energy, who manages the Program Ally network and implements the program on behalf of Leidos and AIC.

Customers in target IQ ZIP codes receive email invitations to apply online or by phone for a free advanced thermostat to install in their homes. Participants then select a Program Ally to install the device, since participants are no longer able to select self-installation. After participants complete their journey through the Smart Savers Channel, AIC cross-promotes additional offerings, such as the IQ Single Family Channel or the Online Marketplace. Towards the end of 2023, AIC rolled out the SSRP which aims to install smart home technology in homes of people with paralysis and other mobility limitations. As part of this pilot, approximately 50 smart thermostats are expected to be installed via the Smart Savers Channel.

EVALUATION APPROACH

The 2024 evaluation of the IQ Initiative Smart Savers Channel includes both process and impact analyses as outlined in the following sections.

RESEARCH OBJECTIVES

IMPACT QUESTIONS

The 2024 impact evaluation will answer the following questions:

- What are the estimated gross electric energy, electric demand, natural gas, and other fuel impacts from the Channel?
- What are the estimated net electric energy, electric demand, natural gas, and other fuel impacts from the Channel?

PROCESS QUESTIONS

The evaluation team will focus on answering the following questions as part of 2024 process evaluation activities:

- How many single family and multifamily homes participated in Smart Savers? What has been the impact of the new Program Ally-only install implementation strategy on participation? Has participation met expectations? If not, why?
- What ZIP codes qualify for the Smart Savers Channel given the new implementation design? What areas are Program Allies unable to serve? What is the Channel doing to ensure there is Program Ally coverage in these areas?
- How much participation has there been in the SSRP? What has been the impact of this addition to the Smart Savers Channel and how does it overlap or cross promote with the Accessibility Pilot?
- Is the Channel being implemented according to design? Have there been any modifications to design or implementation in 2024? What have been the successes and challenges associated with these changes? What has been the impact of the changes to design or implementation in 2024 according to Program Allies?

- How well are AIC and its implementation partners working together to achieve the goals of the Channel? Are there any ways to improve the efficiency of their coordination?
- What were the Smart Savers Channel's marketing and outreach efforts, including recruitment for Smart Savers and cross-promotion of other AIC offerings? What efforts have been the most and least successful in 2024, according to AIC and implementation staff?
- What kind of education are Program Allies providing to customers? Is there a desire among participants to receive more information about their advanced thermostat according to the Program Ally? Who benefits the most from in person education according to Program Allies?

EVALUATION TASKS

Table 37 summarizes the 2024 evaluation activities planned for the IQ Initiative Smart Savers Channel.

Table 37. Summary of IQ Initiative – Smart Savers Channel Evaluation Activities for 2024

Task	Impact	Process	Market	Details
Channel Material and Database Review	✓	✓		Review the 2024 database, relevant administrative reports, and marketing and outreach materials to document Channel design and any changes.
Channel Staff Interviews		✓		Conduct interviews with AIC and implementation staff to document Channel design and implementation for 2024 and explore Channel performance.
Program Ally Interviews		✓		Conduct interviews with participating Program Allies to understand their experience participating in the Smart Savers Channel, the rollout of the new implementation design, the education that Program Allies provide to participants upon installing their smart thermostat, and the implementation of the Smart Self-Reliance Pilot.
Impact Analysis	✓			Review Channel tracking data for accuracy, completeness, and to ensure that correct deemed input values and IL-TRM V12.0 specified algorithms are used in calculating gross savings. Determine 2024 net impacts using SAG-approved NTGR values.

We describe each of these activities in detail below.

TASK I. CHANNEL MATERIALS AND DATABASE REVIEW

We will review Channel materials, including implementation plans, marketing plans and collateral, and tracking databases to assess Channel implementation and provide recommendations for improvement, where applicable. We request extracts from AMPLIFY on a regular basis and will continue to communicate with AIC and Leidos about data needs.

Deliverable: Data requests *Deliverable Date:* Ongoing 2024

TASK 2. CHANNEL STAFF INTERVIEWS

We will conduct two rounds of interviews with the AIC staff and implementation staff. We will schedule the first round in Q2 2024 to discuss progress to date and planned or executed changes to Channel design and implementation. We will also discuss planned or executed marketing and outreach efforts and any opportunities or challenges Channel staff might have faced or anticipate they will face in 2024. We will conduct another round of interviews in Q4 2024 to get retrospective feedback on Channel performance and implementation challenges that occurred during the year. We anticipate conducting two interviews per round (four total).

Deliverable: Completed interviews *Deliverable Date:* May and December 2024

TASK 3. PROGRAM ALLY INTERVIEWS

We will conduct interviews with Program Allies in the first half of 2024. Topics will include Program Ally experience in the Smart Savers Channel; thermostat installation experience; strategies used by Program Allies to educate customers on advanced thermostat features; and customer marketing strategies for other Initiatives. We will determine exact completion goals based on participation counts through June and available contact information.

Deliverable: Draft and final interview guide *Deliverable Date:* July 2024

Deliverable: Findings to be included in Process Evaluation Results Memo *Deliverable Date:* December 2024

TASK 4. PROCESS EVALUATION RESULTS MEMO

We will compile the results of tasks 1 through 3 into a memorandum that summarizes key findings and conclusions about current Channel performance, as well as recommendations for future design and delivery. Before finalizing the memorandum, we will facilitate a discussion with AIC and implementation staff to discuss results and recommendations.

Deliverable: Draft and final memo *Deliverable Date:* December 2024

TASK 5. IMPACT ANALYSIS

The 2024 evaluation will estimate gross and net impacts. The impact evaluation team will use savings algorithms from the IL-TRM V12.0, and data inputs from the Smart Savers Channel tracking database to estimate verified gross savings. Finally, we will calculate 2024 net savings by applying the SAG-approved NTGR of 1.0 to verified gross electric and gas savings.

In addition to the year-end final impact analysis, we will complete and deliver an interim impact analysis memo in September 2024 to provide the implementation team with early feedback on the performance of the Channel.

Deliverable: Interim impact analysis memo *Deliverable Date:* September 2024

Deliverable: Analysis in draft annual impact evaluation report *Deliverable Date:* March 2025

TASK 6. ANNUAL REPORTING

The evaluation team will include 2024 Smart Savers Channel impacts in the draft Residential Program annual impact evaluation report. We will incorporate our responses to stakeholder feedback in a final report.

Deliverable: Chapter in draft annual Residential Program impact report *Deliverable Date:* March 15, 2025

Deliverable: Chapter in final annual Residential Program impact report *Deliverable Date:* April 30, 2025

EVALUATION BUDGET AND TIMELINE

Table 38 summarizes the timing and budget associated with each Smart Savers Channel evaluation activity.

Table 38. IQ Initiative – Smart Savers Channel Evaluation Schedule and Budget for 2024

Task	Evaluation Activity	Deliverable Date	Budget
1	Channel Material and Database Review	Ongoing	$3,800
2	Channel Staff Interviews	May and December 2024	$4,200
3	Program Ally Interviews	December 2024	$21,900
4	Process Evaluation Results Memo	December 2024	$12,600
5	Impact Analysis	March 2025	$20,000
6	Draft Annual Impact Report	March 15, 2025	$8,000
	Comments from AIC and ICC Staff	Within 15 Business Days	
	Final Annual Report	April 30, 2025	
Total Budget			**$70,500**

4.1.7 INCOME QUALIFIED INITIATIVE - MOBILE HOMES & AIR SEALING CHANNEL

The Mobile Homes & Air Sealing (MHAS) Channel is a third party offering that delivers energy efficiency and other improvements to IQ customers living in manufactured and mobile homes. The Channel provides kits with energy-saving products as well as larger weatherization and HVAC upgrades, including some mobile home-specific measures like "belly board" (i.e., subfloor) insulation. Customers will also receive energy literacy education. If needed, the program also seeks to address H&S needs. In addition, AIC and its partners are actively recruiting and training Program Allies to work on mobile home projects, as well as developing partnerships with CAAs and community-based organizations (CBOs) for Channel delivery and community engagement. The MHAS Channel is implemented by a third party vendor, Future Energy Enterprises, in partnership with AIC and Leidos.

EVALUATION APPROACH

The 2024 evaluation of the IQ Initiative MHAS Channel includes both process and impact analyses as outlined in the following sections.

RESEARCH OBJECTIVES

IMPACT QUESTIONS

The 2024 impact evaluation will answer the following questions:

- What are the estimated gross electric energy, electric demand, natural gas, and other fuel impacts from the Channel?
- What are the estimated net electric energy, electric demand, natural gas, and other fuel impacts from the Channel?

PROCESS QUESTIONS

The evaluation team will focus on answering the following questions as part of 2024 process evaluation activities:

- How many customers participated in MHAS? Has participation met expectations? If not, why?
- What communities is this Channel serving and what socioeconomic issues or environmental justice issues do they face?
- Is the Channel being implemented according to design? Have there been any modifications to design or implementation in 2024? What have been the successes and challenges associated with these changes?
- How does the Channel identify and prioritize mobile home communities for recruitment? How does it recruit participants within those communities? What efforts have been the most and least successful, according to AIC and implementation staff?
- What are the respective roles of AIC, the implementation partners, and the various delivery partners? How effectively are these organizations working together to achieve the goals of the channel? Are there any ways to improve the efficiency of their coordination?
- What community partnerships, if any, is the MHAS Channel leveraging; and in what capacity (e.g., outreach, referrals, implementation)?
- What strategies does the Channel use to recruit delivery partners? Did recruitment levels meet expectations? If not, why? Are there additional types of delivery partners that the Channel wants to recruit but has not been able to partner with? If so, why?
- What motivators and/or barriers exist for mobile home (MH) customers to participate in the Channel, according to Channel staff?

EVALUATION TASKS

Table 39 summarizes the 2024 evaluation activities planned for the IQ Initiative MHAS Channel.

Table 39. Summary of IQ Initiative – MHAS Channel Evaluation Activities for 2024

Task	Impact	Process	Details
Channel Staff Interviews		✓	Conduct interviews with AIC and implementation staff to further understand Channel performance and evaluation priorities for 2024.
Channel Material & Database Review	✓	✓	Review the 2024 database, relevant Channel materials and reports, and marketing and outreach materials to document Channel design and changes.
Impact Analysis	✓		Review Channel tracking data for accuracy, completeness, and to ensure that correct deemed input values and IL-TRM V12.0 specified algorithms are used in calculating gross savings. Determine 2024 net impacts using SAG-approved NTGR values.

We describe each of these activities in detail below.

TASK I. CHANNEL STAFF INTERVIEWS

We will conduct two rounds of interviews with staff from AIC, Leidos, and Future Energy Enterprises. We will schedule the first round in Q2 2024 to discuss planned or executed changes to the Channel's design and implementation and discuss the goals of the delivery partner and participant interviews. We will also discuss planned or executed marketing and outreach efforts, data collection efforts, and any opportunities or challenges Channel staff might have faced or anticipate they will face in 2024. We will conduct another round of interviews in Q4 2024 to get retrospective feedback on Channel performance and implementation challenges that occurred during the year. We anticipate conducting three interviews per round (six total).

Deliverable: Completed interviews *Deliverable Date:* May and December 2024

TASK 2. CHANNEL MATERIALS AND DATABASE REVIEW

We will review Channel materials, including implementation plans, marketing plans and collateral, tracking databases, and AIC's own participant survey data (i.e., data fielded and analyzed by the implementation team) to assess Channel implementation and provide recommendations for improvement, where applicable. We will request extracts from AMPLIFY on a regular basis and will continue to communicate with AIC and Leidos about data needs.

Deliverable: Data requests *Deliverable Date:* Ongoing

TASK 3. IMPACT ANALYSIS

The 2024 evaluation will include gross and net impact estimates. The impact evaluation team will use savings algorithms from the IL-TRM V12.0, and data inputs from the MHAS Channel tracking database to estimate verified gross savings. Finally, we will calculate 2024 net savings by applying the SAG-approved NTGR of 1.0 to verified gross electric and gas savings. If relevant and timely, we will also include any relevant MHAS Channel process-related results within this memo.

Deliverable: Interim impact analysis memo *Deliverable Date:* September 2024

Deliverable: Analysis in draft annual impact evaluation report *Deliverable Date:* March 2025

TASK 4. ANNUAL REPORTING

The evaluation team will include 2024 MHAS Channel impacts in the draft Residential Program annual impact evaluation report. We will also include any relevant MHAS Channel process-related results within this report. We will incorporate our responses to stakeholder feedback in a final report.

Deliverable: Chapter in draft annual Residential Program impact report *Deliverable Date:* March 15, 2025

Deliverable: Chapter in final annual Residential Program impact report *Deliverable Date:* April 30, 2025

EVALUATION BUDGET AND TIMELINE

Table 40 summarizes the timing and budget associated with each evaluation activity.

Table 40. IQ Initiative – MHAS Channel Evaluation Schedule and Budget for 2024

Task	Evaluation Activity	Deliverable Date	Budget
1	Channel Staff Interviews	May and December 2024	$8,400
2	Channel Materials and Database Review	Ongoing	$8,600
3	Impact Analysis	September 2024 and March 2025	$42,700
4	Draft Annual Impact Report	March 15, 2025	$15,600
	Comments from AIC and ICC Staff	Within 15 Business Days	
	Final Annual Report	April 30, 2025	
Total Budget			**$75,300**

4.1.8 INCOME QUALIFIED INITIATIVE – HEALTHIER HOMES CHANNEL

The Healthier Homes Channel is a third party offering that partners with healthcare providers and local community organizations to identify IQ or underserved households with a history of asthma or other respiratory ailments. AIC provides a suite of energy efficiency and health and safety services to deliver both energy bill savings and preventative care to these households. The offering includes an in-home health and energy assessment; various energy saving products like LEDs; larger weatherization and HVAC upgrades like air sealing and advanced thermostats; and indoor air quality (IAQ) improvement measures such as hypoallergenic bedding, mold remediation, indoor air quality (IAQ) monitors, and CO detectors. Some measures, such as dehumidifiers and air purifiers, are "hybrid measures" that intend to both save energy and improve IAQ.

Implementation for this Channel is provided by the following third party vendors: Energy Infrastructure Partners, Urban Efficiency, and the Indoor Climate and Research Training Center.

EVALUATION APPROACH

The 2024 evaluation of the Healthier Home Channel includes both impact and process analysis as outlined below.

RESEARCH OBJECTIVES

IMPACT QUESTIONS

The overall objective of the impact evaluation is to estimate the electric energy, peak demand, and gas impacts from the Healthier Homes Channel. As such, the 2024 impact evaluation will answer the following questions:

- What are the estimated gross electric energy, electric demand, natural gas, and other fuel impacts from the Channel?
- What are the estimated net electric energy, electric demand, natural gas, and other fuel impacts from the Channel?

PROCESS QUESTIONS

The evaluation team will focus on answering the following questions as part of 2024 process evaluation activities:

- What is the initial design of the Channel? Were there any deviations from this design and why? What are the respective roles of AIC, the implementation partners, and the various delivery partners?
- How many customers participated in Healthier Homes in 2024? Has participation met expectations? If not, why?
- How does the initial design of the Channel compare to similar programs, if any, across the country? What design and implementation best practices or lessons learned do these other programs offer?
- What is the underlying theory of change for the Healthier Homes Channel?
- Do NEIs exist within the Healthier Homes Channel, and if so, what are they?

We will explore each of these questions through the activities described in this evaluation plan.

EVALUATION TASKS

Table 41 summarizes the 2024 evaluation activities planned for the IQ Initiative Healthier Homes Channel.

Table 41. Summary of IQ Initiative – Healthier Homes Channel Evaluation Activities for 2024

Task	Impact	Process	Market	Details
Channel Material and Database Review	✓	✓		Review the 2024 database, relevant administrative reports, and marketing and outreach materials to document Channel design and any changes.
Channel Staff Interviews		✓		Conduct interviews with AIC and implementation staff to document Channel design and implementation for 2024 and explore Channel performance.
Program Design Review		✓		Review similar programs within the industry, examining both utility and non-utility initiatives to identify design and implementation best practices and gather lessons from other administrators. Based on the industry scan results, the team will review initial Channel plans and create a PTLM.
NEI Research		✓		Explore the existence of NEIs generated by the Heathier Homes Channel through material review, Channel staff interviews, and delivery partner interviews and identify a list of NEIs for future study. Furthermore, we will gather data on programs with comparable designs that have generated and assessed NEIs through a review of program designs.
Impact Analysis	✓			Review Channel tracking data for accuracy, completeness, and to ensure that correct deemed input values and IL-TRM V12.0 specified algorithms are used in calculating gross savings. Determine 2024 net impacts using SAG-approved NTGR values.

TASK 1. CHANNEL MATERIALS AND DATABASE REVIEW

We will request and review the implementation partner's bid (Energy Infrastructure Partners), as well as any additional implementation and marketing plans, to understand planned Channel design, measures, and implementation processes where applicable. We request extracts from AMPLIFY on a regular basis and will continue to communicate with AIC and Leidos about data needs.

Deliverable: Data requests *Deliverable Date:* Ongoing

TASK 2. CHANNEL STAFF INTERVIEWS

We will conduct two rounds of interviews with the AIC staff. We will schedule the first round in Q2 2024 to discuss the status of implementation partner selection and Channel design and discuss the goals of the design review. We will conduct another interview in Q4 2024 to get retrospective feedback on Channel performance and implementation challenges that occurred during the year. We anticipate two total interviews.

Deliverable: Completed interviews *Deliverable Date:* May and December 2024

TASK 3. PROGRAM DESIGN REVIEW

We will scan the industry for similar types of programs, implemented by utilities or non-utilities, to develop an understanding of design and implementation best practices, as well as compile lessons learned from other program administrators. Based on the results of the industry scan, we will review initial channel plans, and discuss with AIC and implementation staff. If available, we will also review the PTLM. If a PTLM is not available, we will create one that accurately repre3ents the empirical and theoretical connections between Channel inputs, activities, outputs, and outcomes. We will compile the results of this task into a memorandum that includes the proposed PTLM, summarizes key findings and conclusions from the review of other programs, and provides recommendations for future design and delivery. Before finalizing the memo, we will facilitate a discussion with AIC and implementation staff to discuss the PTLM, results, and recommendations.

Deliverable: Draft and final memo (combined with Task 4 deliverable) *Deliverable Date:* September 2024

TASK 4. NEI RESEARCH

We will incorporate components of our NEI research in tasks 1 through 3 of the Healthier Homes Channel evaluation. We will conduct a thorough material review and complete interviews with Channel staff and delivery partners to explore, identify, and document the NEIs generated by the Channel. Additionally, we will collect data on programs with similar designs that have successfully generated and assessed NEIs, utilizing a comprehensive review of program designs. This review will help to inform future program improvements and evaluation strategies for measuring NEIs.

Deliverable: Draft and final memo (combined with Task 3 deliverable). *Deliverable Date:* September 2024

TASK 5. IMPACT ANALYSIS

The 2024 evaluation will estimate gross and net impacts. The impact evaluation team will use savings algorithms from the IL-TRM V12.0, and data inputs from the Healthier Homes Channel tracking database to estimate verified gross savings. Finally, we will calculate 2024 net savings by applying the SAG-approved NTGR of 1.0 to verified gross electric and gas savings.

In addition to the year-end final impact analysis, dependent on Channel participation, we will consider completion of an interim impact analysis memo in September 2024 to provide the implementation team with early feedback on the performance of the Channel.

Deliverable: Interim impact analysis memo *Deliverable Date:* September 2024

Deliverable: Analysis in draft annual impact evaluation report *Deliverable Date:* March 2025

TASK 6. ANNUAL REPORTING

The evaluation team will include 2024 Healthier Homes Channel impacts in the draft Residential Program annual impact evaluation report. We will incorporate our responses to stakeholder feedback in a final report.

Deliverable: Chapter in draft annual Residential Program impact report *Deliverable Date:* March 15, 2025

Deliverable: Chapter in final annual Residential Program impact report *Deliverable Date:* April 30, 2025

EVALUATION BUDGET AND TIMELINE

Table 42 summarizes the timing and budget associated with each evaluation activity.

Table 42. IQ Initiative – Healthier Homes Channel Evaluation Schedule and Budget for 2024

Task	Evaluation Activity	Deliverable Date	Budget
1	Channel Material and Database Review	Ongoing	$3,600
2	Channel Staff Interviews	May and December 2024	$5,300
3	Program Design Review	September 2024	$9,000
4	NEI Research	September 2024	$10,600
5	Impact Analysis	March 2025	$13,000
6	Draft Annual Impact Report	March 15, 2025	$4,400
	Comments from AIC and ICC Staff	Within 15 Business Days	
	Final Annual Report	April 30, 2025	
Total Budget			**$45,900**

4.1.9 INCOME QUALIFIED INITIATIVE – ACCESSIBILITY PILOT

The Accessibility Pilot is designed to enhance the lives of Ameren Illinois residential customers with disabilities through the installation of various smart home devices at no cost to customers of need. These smart devices are intended to enhance the functionality of the customer's home, fostering independence, heightened safety, and personal agency, all while helping them conserve energy. The potential measures installed include advanced thermostats, smart speakers, video doorbells, smart lighting and electrical outlet controls, and water saving measures. Customer education on the general functionality and features of the installed products is also offered. Installation of measures is customized based on the needs of the Channel participants and provided through a third party vendor, in partnership with AIC.

EVALUATION APPROACH

The 2024 evaluation of the Accessibility Pilot includes both impact and process analysis as outlined below.

RESEARCH OBJECTIVES

IMPACT QUESTIONS

The 2024 impact evaluation will answer the following questions:

- What are the estimated gross electric energy, electric demand, natural gas, and other fuel impacts from the pilot?
- What are the estimated net electric energy, electric demand, natural gas, and other fuel impacts from the pilot?

PROCESS QUESTIONS

The evaluation team will also explore the following process-related research questions:

- What is the initial design of the pilot? Were there any deviations from this initial design, and, if so, why? What are the respective roles of AIC, the implementation partners, and the various partner organizations and community organizations?
- How many customers participated in the Accessibility Pilot in 2024? Has participation met expectations? If not, why?
- How does the Accessibility Pilot identify target communities and participants? What are the most important selection criteria?
- How well are AIC and its implementation partners working together to achieve the goals of the channel? Are there any ways to improve the efficiency of their coordination?
- What kind of education are Program Allies providing to customers?
- Do NEIs exist within the Accessibility Pilot, and if so, what are they?

We will explore each of these questions through the activities described in this evaluation plan.

EVALUATION TASKS

Table 43 summarizes the 2024 evaluation activities planned for the Accessibility Pilot.

Table 43. Summary of IQ Initiative –Accessibility Pilot Evaluation Activities for 2024

Task	Impact	Process	Market	Details
Pilot Material and Database Review	✓	✓		Review the 2024 database, relevant administrative reports, and marketing and outreach materials to document pilot design and any changes.
Pilot Staff Interviews		✓		Conduct interviews with AIC and implementation staff to document pilot design and implementation for 2024 and explore Pilot performance.
NEI Research		✓		Explore the existence of NEIs generated by the Accessibility Pilot through material review, Channel staff interviews, and delivery partner interviews and identify a list of NEIs for future study. Furthermore, we will gather data on programs with comparable designs that have generated and assessed NEIs through a review of program designs.
Impact Analysis	✓			Review Pilot tracking data for accuracy, completeness, and to ensure that correct deemed input values and IL-TRM V12.0 specified algorithms are used in calculating gross savings. Determine 2024 net impacts using SAG-approved NTGR values.

We describe each of these activities in detail below.

TASK 1. PILOT MATERIALS AND DATABASE REVIEW

We will review pilot materials, including implementation plans, marketing plans and collateral, and tracking databases to assess pilot implementation and provide recommendations for improvement, where applicable. We request extracts from AMPLIFY on a regular basis and will continue to communicate with AIC and Leidos about data needs.

Deliverable: Data requests *Deliverable Date:* Ongoing

TASK 2. PILOT STAFF INTERVIEWS

We will conduct two rounds of interviews with the AIC pilot manager and implementation staff. We will schedule the first round in Q2 2024 to discuss progress to date, planned or executed changes to pilot design and implementation, and discuss the goals of the delivery partner interviews. We will also discuss planned or executed marketing and outreach efforts and any opportunities or challenges pilot staff have faced or anticipate they will face in 2024. We will conduct another round of interviews in Q4 2024 to get retrospective feedback on pilot performance and any implementation challenges that occurred during the year. We anticipate conducting two interviews per round (four total).

Deliverable: Completed interviews *Deliverable Date:* May and December 2024

TASK 3. NEI RESEARCH

We will incorporate components of our NEI research in tasks 1 and 2 of the Accessibility Pilot evaluation. We will conduct a thorough material review and complete interviews with pilot staff and partner organizations and other community partners to explore, identify, and document the NEIs generated by the channel. This review will help to inform future program improvements and evaluation strategies for measuring NEIs.

Deliverable: Draft and final memo *Deliverable Date:* October 2024

TASK 4. IMPACT ANALYSIS

The 2024 evaluation will estimate gross and net impacts. The impact evaluation team will use savings algorithms from the IL-TRM V12.0, and data inputs from the Accessibility Pilot's tracking database to estimate verified gross savings. Finally, we will calculate 2024 net savings by applying the SAG-approved NTGR of 1.0 to verified gross electric and gas savings.

In addition to the year-end final impact analysis, dependent on Channel participation, we will consider completion of an interim impact analysis memo in September 2024 to provide the implementation team with early feedback on the performance of the Channel.

Deliverable: Interim impact analysis memo *Deliverable Date:* September 2024

Deliverable: Analysis in draft annual impact evaluation report *Deliverable Date:* March 2025

TASK 5. ANNUAL REPORTING

The evaluation team will include 2024 Accessibility Pilot's impacts in the draft Residential Program annual impact evaluation report. We will incorporate our responses to stakeholder feedback in a final report.

Deliverable: Chapter in draft annual Residential Program impact report *Deliverable Date:* March 15, 2025

Deliverable: Chapter in final annual Residential Program impact report *Deliverable Date:* April 30, 2025

EVALUATION BUDGET AND TIMELINE

Table 44 summarizes the timing and budget associated with each evaluation activity.

Table 44. IQ Initiative – Accessibility Pilot Evaluation Schedule and Budget for 2024

Task	Evaluation Activity	Deliverable Date	Budget
1	Pilot Material and Database Review	Ongoing	$2,800
2	Pilot Staff Interviews	May and November 2024	$5,800
3	NEI Research	November 2024	$15,000
4	Impact Analysis	September 2024 and March 2025	$13,000
5	Draft Annual Impact Report	March 15, 2025	$4,400
	Comments from AIC and ICC Staff	Within 15 Business Days	
	Final Annual Report	April 30, 2025	
Total Budget			**$41,000**

4.1.10 MULTIFAMILY INITIATIVES

The Multifamily Initiatives include the Multifamily Channel of the Income Qualified Initiative, the Market Rate Multifamily Initiative, and the Public Housing Initiative. The Initiatives offer multifamily customers comprehensive property assessments, health and safety evaluations, in-unit and common area direct install measures, as well as deeper energy saving weatherization and HVAC measures.

The Initiatives use a one-stop shop (OSS) model,[18] where AIC provides property managers with a concierge, called an Energy Advisor, to support them as they participate in one or more offerings across the entire AIC portfolio. Using this delivery strategy, AIC and its implementation partners strive to provide a seamless participation experience designed to overcome traditional barriers to participation, as well as barriers to implementing a broad set of energy efficiency upgrades typically offered through multiple discrete AIC offerings.

[18] A one-stop shop, according to the IL EE Policy Manual Version 3.0, is defined by the following four characteristics: program navigation support, application ease, comprehensive technical assistance, and comprehensive offers of all measures or programs that may be applicable to the customer. https://www.ilsag.info/wp-content/uploads/IL_EE_Policy_Manual_Version_3.0_Final_11-3-2023.pdf

EVALUATION APPROACH

The 2024 evaluation of the Multifamily Initiatives includes both impact and process analysis as outlined below.

RESEARCH OBJECTIVES

IMPACT QUESTIONS

The 2024 impact evaluation will answer the following questions:

- What are the estimated gross electric energy, electric demand, natural gas, and other fuel impacts from the Initiatives?
- What are the estimated net electric energy, electric demand, natural gas, and other fuel impacts from the Initiatives?
- To what extent are energy saving measures installed in tenant units still in place and operating?

PROCESS QUESTIONS

The evaluation team will also explore the following process-related research questions:

- How many multifamily properties completed projects, and how many tenant units were served? What types of projects were completed, and in what sectors? Has participation met expectations? If not, why?
- Are the Multifamily Initiatives being implemented according to design? Have there been any modifications to design or implementation in 2024? What have been the successes and challenges associated with these changes?
- To what extent do the key elements, including the design and implementation of AIC's OSS model, and the availability of pertinent data, meet the criteria for a OSS, as defined by the IL EE Policy Manual? Is it feasible, with current data, to evaluate whether the Multifamily Initiatives are meeting the OSS criteria?
- Are there any potential opportunities to reduce the costs of Multifamily Initiatives whole-building upgrades from the perspective of Initiative staff and the implementation team? If so, what sorts of changes (e.g., to design, measures, or customer service) would need to occur?
- How do participating property managers/owners experience the Initiatives? Are they satisfied with their experience? What feedback do they have about the OSS approach?
- According to property managers, is the OSS design (e.g., the single point of contacts, streamlined approach) achieving its intended goal of influencing participation in other AIC Initiatives? What motivators and barriers exist among property managers to implementing broader energy-efficient upgrades? How do Initiative staff address the barriers?

EVALUATION TASKS

Table 45 summarizes the 2024 evaluation activities planned for the Multifamily Initiatives.

Table 45. Summary of Multifamily Initiatives Evaluation Activities for 2024

Task	Impact	Process	Market	Details
Initiative Material and Database Review	✓	✓		Review the 2024 database, relevant administrative reports, and marketing and outreach materials to document Initiative design and any changes.

Task	Impact	Process	Market	Details
Initiative Staff Interviews		✓		Conduct interviews with AIC and implementation staff to document Initiative design and implementation for 2024 and explore Initiative performance.
OSS Evaluability Assessment		✓		Conduct an evaluability assessment of AIC's OSS model using Initiative tracking data and any other relevant information from property manager interviews and Initiative staff interviews, in alignment with OSS criteria set forth in the IL EE Policy Manual.
Participation Analysis		✓		Conduct a comprehensive participation analysis of Multifamily Initiatives by assessing the Initiatives' penetration in the AIC service territory.
Property Manager Survey		✓		Conduct surveys with property managers who have participated in Multifamily Initiatives, aiming to gather feedback on various aspects of their participation experience, including the OSS design, and to explore the influence of the Initiatives and Energy Advisors on subsequent decisions, with a specific focus on ductless heat pump installations.
Impact Analysis	✓			Review Initiative tracking data for accuracy, completeness, and to ensure that correct deemed input values and IL-TRM V12.0 specified algorithms are used in calculating gross savings. Determine 2024 net impacts using SAG-approved NTGR values.

We describe each of these activities in detail below.

TASK 1. INITIATIVE MATERIALS AND DATABASE REVIEW

For each Initiative, we will review Initiative materials, including implementation plans, marketing plans and collateral, and tracking databases to assess Initiative implementation and provide recommendations for improvement, where applicable. We request extracts from AMPLIFY on a regular basis and will continue to communicate with AIC and Leidos about data needs.

Deliverable: Data requests *Deliverable Date:* Ongoing

TASK 2. INITIATIVE STAFF INTERVIEWS

We will conduct two rounds of interviews with the AIC Initiative manager and implementation staff. We will schedule the first round in Q2 2024 to discuss progress to date, planned or executed changes to Initiative design and implementation, the feasibility of conducting an evaluation of the OSS, and discuss the goals of the property manager survey. We will also discuss planned or executed marketing and outreach efforts and any opportunities or challenges Initiative staff have faced or anticipate they will face in 2024. We will conduct another round of interviews in Q4 2024 to get retrospective feedback on Initiative performance and implementation challenges that occurred during the year. We anticipate conducting three interviews per round (six total).

Deliverable: Completed interviews *Deliverable Date:* May and December 2024

TASK 3. OSS EVALUABILITY ASSESSMENT

The purpose of this assessment is to examine if it is feasible, with current data, to evaluate whether the Multifamily Initiatives are meeting the OSS criteria as defined by the IL EE Policy Manual. Examining this topic is intended to help determine whether AIC's approach to the OSS model, implementation of the OSS, and/or ongoing data collection needs to be modified to ensure the Initiatives are meeting the OSS criteria.

Deliverable: Draft and final memo *Deliverable Date:* October 2024

TASK 4. PARTICIPATION ANALYSIS

We will conduct a participation analysis of the Multifamily Initiatives including previous participants and evaluating the penetration of the Multifamily Initiatives in the AIC service territory. The analysis will encompass the identification of participation criteria, compilation of participant data, and exploration of the geographical distribution of participation within the AIC service area. Utilizing both quantitative and qualitative methods, the evaluation aims to provide insights into the effectiveness and reach of the Multifamily Initiatives, offering valuable information for Initiative improvement and strategic decision-making.

Deliverable: Findings to be included in Process Evaluation Results Memo *Deliverable Date:* October 2024

TASK 5. PROPERTY MANAGER SURVEY

We will conduct surveys with property managers who participated in the Multifamily Initiatives, across all sectors (IQ, Public Housing, and Market Rate). This survey will serve as a follow-up to the in-depth interviews and surveys conducted in 2022 and will cover similar topics. The overarching purpose of this survey is to gather feedback from property managers on various aspects of their participation experience (e.g., application, property assessment, and project implementation) and the OSS design (e.g., whether process of participating in other Initiatives was seamless or challenging). For property managers who have gone on to complete additional work through other Initiatives, we will ask them to comment on the influence of the Multifamily Initiatives and their Energy Advisor in that decision. For those who have not gone on to participate in another Initiative, we will ask about any plans and/or barriers to doing so. Additionally, there will be a NTG component of the market rate property manager survey focused on the influence of the Initiative on property managers to install ductless heat pumps. We will refine the target topics in collaboration with Initiative staff.

We will field this survey as a census (i.e., attempting to contact all property managers). Completion goals will depend on the number of projects in the tracking data, but we anticipate completing approximately 25 - 30 surveys. We will begin with a sample based on Initiative tracking data through June, and field the survey in the summer, but will consider fielding another wave in the fall using tracking data through September 2024, if necessary.

We have budgeted this task as a web survey with email outreach, but will consider switching to a phone approach, if necessary, to increase response rates. We will also limit the length of the survey and offer a $50 incentive to increase the response rate.

Deliverable: Draft and final survey instruments *Deliverable Date:* July 2024

Deliverable: Findings included in Process Evaluation Results Memo *Deliverable Date:* October 2024

TASK 6. PROCESS EVALUATION RESULTS MEMO

We will compile the results of tasks 1 through 5 into a memorandum that summarizes key findings and conclusions about current Initiative performance, as well as recommendations for future design and delivery. Before finalizing the memorandum, we will facilitate a discussion with AIC and implementation staff to discuss results and recommendations.

Deliverable: Draft and final memo *Deliverable Date:* October 2024

TASK 7. IMPACT ANALYSIS

The 2024 evaluation will estimate gross and net impacts. The impact evaluation team will use savings algorithms from the IL-TRM V12.0, and data inputs from the Initiative tracking database to estimate verified gross savings. For net impacts, we will apply the SAG-approved NTGRs for 2024, which vary by Initiative.

In addition to the year-end final impact analysis, we will complete and deliver an interim impact analysis memo in September 2024 to provide the implementation team with early feedback on the performance of the Initiatives.

Deliverable: Interim impact analysis memo *Deliverable Date:* September 2024

Deliverable: Analysis in draft annual impact evaluation report *Deliverable Date:* March 2025

TASK 8. ANNUAL REPORTING

The evaluation team will include 2024 Initiative impacts in the draft Residential Program annual impact evaluation report. We will incorporate our responses to stakeholder feedback in a final report.

Deliverable: Chapter in draft annual Residential Program impact report *Deliverable Date:* March 15, 2025

Deliverable: Chapter in final annual Residential Program impact report *Deliverable Date:* April 30, 2025

EVALUATION BUDGET AND TIMELINE

Table 46 summarizes the timing and budget associated with each evaluation activity.

Table 46. Multifamily Initiatives Evaluation Schedule and Budget for 2024

Task	Evaluation Activity	Deliverable Date	Budget
1	Initiative Materials and Database Review	Ongoing	$5,900
2	Initiative Staff Interviews	May and December 2024	$6,600
3	OSS Evaluability Assessment	October 2024	$12,400
4	Participation Analysis	October 2024	$11,400
5	Property Manager Survey	July and October 2024	$41,100
6	Process Evaluation Results Memo	October 2024	$15,100
7	Impact Analysis	March 2025	$55,700
8	Draft Annual Impact Report	March 15, 2025	$23,500
	Comments from AIC and ICC Staff	Within 15 Business Days	
	Final Annual Report	April 30, 2025	
Total Budget			**$171,700**

4.2 BUSINESS PROGRAM

4.2.1 STANDARD INITIATIVE

The Standard Initiative offers AIC private and public sector business customers fixed incentives for the installation of prescriptive energy efficiency measures. The Initiative primarily focuses on lighting retrofits, lighting controls, motors, HVAC equipment, steam traps, and specialty applications such as agricultural and refrigeration measures. In addition, the Building Operator Certification (BOC) offering, which provides training to building operators in AIC's service territory on how to reduce their facility's energy usage, is also included under the Standard Initiative.

EVALUATION APPROACH

The 2024 evaluation of the Standard Initiative will include both impact and process evaluation activities.

RESEARCH OBJECTIVES

IMPACT QUESTIONS

The 2024 impact evaluation will answer the following questions:

- What are the estimated gross electric energy, electric demand, natural gas, and other fuel impacts from the Standard Initiative?
- What are the estimated net electric energy, electric demand, natural gas, and other fuel impacts from the Standard Initiative?

PROCESS QUESTIONS

The 2024 process evaluation will seek to answer the following questions:

- How many customers participated in the Initiative? How does this compare to participation in previous years?
- What types of customers participated in the Initiative (e.g., facility types/segment)?
- How many projects were completed through the Initiative? How does this compare to previous years?
- What types of projects did customers complete? How does this compare to previous years?
- How many trade allies participated in the Initiative? How does this compare to previous years?
- What was the distribution of completed projects across the participating trade allies?
- Did customer participation meet expectations? If not, how and why was it different from expectations?
- Did the Initiative experience any implementation challenges in 2024? If so, what were they, and how were they overcome?
- What changes could the Initiative make to improve the customer experience and generate greater energy savings?

EVALUATION TASKS

Table 47 outlines the planned tasks for the 2024 Standard Initiative evaluation.

Table 47. Summary of Standard Initiative Evaluation Activities for 2024

Task	Impact	Process	Market	Details
Initiative Material and Database Review	✓	✓		Gather information about Initiative design, implementation and performance in 2024.
Initiative Staff Interviews		✓		Explore changes made since 2023 and gather information about 2024 design and implementation.
Impact Analysis	✓			Review Initiative tracking data to ensure that correct deemed values and IL-TRM V12.0 specified algorithms are used in calculating savings. Estimate gross impacts through review of the tracking database and application of the IL-TRM V12.0. Determine 2024 net impacts using SAG-approved NTGR values.

We describe each of these activities in detail below.

TASK 1. INITIATIVE MATERIAL AND DATABASE REVIEW

The team will conduct a comprehensive review of all Initiative materials and tracking data. This includes Business Program marketing and implementation plans, customer and ally communications, and extracts from the Business Program tracking database (i.e., AMPLIFY). We request extracts from AMPLIFY on a regular basis and will continue to communicate with AIC and Leidos about data needs.

Deliverable: Data requests *Deliverable Date*: Ongoing

TASK 2. INITIATIVE STAFF INTERVIEWS

We will develop an in-depth interview guide for 2024 to explore Initiative implementation, performance, and other topics relevant to our research objectives. We will conduct up to two interviews with Business Program staff involved in the Standard Initiative: (1) a brief interview mid-cycle to understand the design and implementation strategy of the Initiative in 2024, allow implementation staff the opportunity to comment on the Initiative's performance to-date, and to provide time for the evaluation team to modify any research tasks as necessary and, (2) if needed, an additional interview toward the end of 2024 to follow-up on any relevant items.

Deliverable: Completed interviews *Deliverable Date*: June and November 2024

TASK 3. IMPACT ANALYSIS

To estimate verified gross impacts associated with measures installed through the Standard Initiative, we will conduct an IL-TRM application review for all Standard projects. We will review Initiative tracking data to ensure that correct deemed input values and IL-TRM V12.0 algorithms are used in calculating savings and will replicate savings calculations to ensure accuracy. This step will produce gross savings estimates for 2024. In addition, we will calculate net savings by applying the SAG-approved NTGRs for 2024 to gross savings.

In addition to the year-end final impact analysis, we will complete and deliver an interim impact analysis memo in August 2024 to provide the implementation team with early feedback on the performance of the Initiative.

Deliverable: Interim impact analysis memo *Deliverable Date*: August 2024

Deliverable: Analysis in draft annual impact evaluation report *Deliverable Date*: March 2025

TASK 4. REPORTING

The evaluation team will provide all impact findings in the Business Program Annual Impact Evaluation Report in March 2025. The evaluation team will provide a draft report for AIC, ICC Staff, and SAG review and then deliver a final report that incorporates any comments from the review.

Deliverable: Chapter in draft annual Business Program Impact Report *Deliverable Date:* March 15, 2025

Deliverable: Chapter in final annual Business Program Impact Report *Deliverable Date:* April 30, 2025

EVALUATION BUDGET AND TIMELINE

Table 48 summarizes the timing and budget associated with each evaluation activity.

Table 48. Standard Initiative Evaluation Schedule and Budget for 2024

Task	Evaluation Activity	Deliverable Date	Budget
1	Initiative Material and Database Review	Ongoing	$5,400
2	Initiative Staff Interviews	June and November 2024	$9,200
3	Impact Analysis	August 2024 and March 2025	$89,100
4	Draft Annual Impact Report	March 15, 2025	$17,500
	Comments from AIC and ICC Staff	Within 15 Business Days	
	Final Annual Report	April 30, 2025	
Total Budget			**$121,200**

4.2.2 CUSTOM INITIATIVE

The Custom Initiative offers incentives to AIC Business Program customers for energy efficiency projects involving equipment not covered through other AIC initiatives. Business customers often represent the highest potential for energy savings, but these savings frequently result from highly specialized equipment designed for particular industries or types of facilities. The Custom Initiative allows customers to propose additional measures and tailor projects to the specific needs of their facilities. It also provides an avenue for piloting new measures prior to incorporating them into the Standard Initiative.

The Custom Initiative is delivered to customers though several different channels. Two main offerings are typically responsible for all of the savings claimed through the Initiative:

- The **Custom Incentives** channel provides incentives for electric and gas measures not incentivized through other AIC offerings. Some examples of common Custom Incentives measures include compressed air improvements, energy management systems (EMS), and industrial process measures, including heat recovery, process heat, and improvements to steam systems.
- The **New Construction Lighting** channel offers additional incentives for lighting measures in new construction projects.

Additionally, AIC offers a number of smaller channels through the Custom Initiative, including Metering and Monitoring, Feasibility Studies, Strategic Energy Management, Staffing Grants, Agricultural Energy Audits, and Building Energy Assessments. These offerings typically serve the purpose of engaging AIC's business customers more deeply with energy efficiency.

EVALUATION APPROACH

The 2024 evaluation of the Custom Initiative will include both impact and process evaluation activities. In addition to exploring the process questions listed below, the evaluation team will conduct follow-up process research based on the findings of the comprehensive process evaluation completed in 2023.

RESEARCH OBJECTIVES

IMPACT QUESTIONS

The 2024 impact evaluation will answer the following questions:

- What are the estimated gross electric energy, electric demand, natural gas, and other fuel impacts from the Custom Initiative?
- What are the estimated net electric energy, electric demand, natural gas, and other fuel impacts from the Custom Initiative?
- What is the estimated NTGR for the Initiative?

PROCESS QUESTIONS

The 2024 process evaluation will seek to answer the following questions:

- How many customers participated in the Initiative? How does this compare to participation in previous years?
- What types of customers participated in the Initiative (e.g., facility types/segment)?
- How many projects were completed through the Initiative? How does this compare to previous years?
- What types of projects did customers complete? How does this compare to previous years?
- How many trade allies participated in the Initiative? How does this compare to previous years?
- What was the distribution of completed projects across the participating trade allies?
- Did customer participation meet expectations? If not, how and why was it different from expectations?
- How satisfied are participants with the Custom Initiative?
- Did the Initiative experience any implementation challenges in 2024? If so, what were they, and how were they overcome?
- What changes could the Initiative make to improve the customer experience and generate greater energy savings?

EVALUATION TASKS

Table 49 outlines the planned tasks for the 2024 Custom Initiative evaluation.

Table 49. Summary of Custom Initiative Evaluation Activities for 2024

Task	Impact	Process	Market	Details
Initiative Material and Database Review	✓	✓		Gather information about Initiative design, implementation and performance in 2024. Analyze Initiative tracking data to assess performance.
Initiative Staff Interviews		✓		Explore changes made since 2023 and gather information about 2024 design and implementation.
Net-to-Gross Research	✓	✓	✓	Conduct NTG research with Initiative participants to inform updates to SAG-approved NTGRs. Explore participant satisfaction with Initiative processes.
Impact Analysis	✓			Use desk review and on-site M&V results to estimate gross impacts and measure lives for the Initiative. Determine 2024 net impacts using SAG-approved NTGR values.
Early Reviews	✓			At implementation team request, review project documentation and calculations to account for analytical errors, incorrect assumptions, etc. for in-process projects.

Task	Impact	Process	Market	Details
Process Research Follow-Up		✓		As needed, conduct follow-up activities to the 2023 Custom process evaluation

We describe each of these activities in detail below.

TASK 1. INITIATIVE MATERIAL AND DATABASE REVIEW

The team will conduct a comprehensive review of all initiative materials and tracking data. This includes Business Program marketing and implementation plans, customer and ally communications, and extracts from the Business Program tracking database (i.e., AMPLIFY). We will request extracts from AMPLIFY on a regular basis and will continue to communicate with AIC and Leidos about data needs as needed.

Deliverable: Data requests *Deliverable Date*: Ongoing

TASK 2. INITIATIVE STAFF INTERVIEWS

We will develop an in-depth interview guide for 2024 to explore Initiative implementation, performance, and other topics relevant to our research objectives. We will conduct up to two interviews with Business Program staff involved in the Custom Initiative: (1) a brief interview mid-cycle to understand the design and implementation strategy of the Initiative in 2024, allow implementation staff the opportunity to comment on the Initiative's performance to-date, and to provide time for the evaluation team to modify any research tasks as necessary and, (2) if needed, an additional interview toward the end of 2024 to follow-up on any relevant items.

Deliverable: Completed interviews *Deliverable Date*: June and November 2024

TASK 3. NET-TO-GROSS RESEARCH

The evaluation team will survey Custom Initiative participants to estimate free-ridership and spillover associated with the Initiative. The team will use the data collected to develop channel-level NTGRs, which will be used to update SAG-approved NTGRs. The evaluation team will also use the participant survey to collect feedback on participant satisfaction with the Initiative processes and opportunities to improve the Initiative and its offerings moving forward. The evaluation team will determine whether to field the survey as in-depth interviews or a web survey based on the size of the sample.

The evaluation team also plans to conduct a separate research effort with customers completing Combined Heat and Power (CHP) projects. These projects have longer lead times and often take multiple years to complete. The best practice is to conduct NTG interviews with these customers when they have committed to completing the project, rather than after the project is completed. The evaluation team will conduct this research with CHP participants as in-depth interviews and will complete the interviews on an ongoing basis as projects enter the pipeline.

Deliverable: Draft participant survey (CHP and non-CHP projects) *Deliverable Date*: June 2024

Deliverable: Draft NTGRs (non-CHP projects) *Deliverable Date*: July 2024

Deliverable: Final NTGRs (non-CHP projects) *Deliverable Date*: August 2024

Deliverable: Process results provided in a memo (non-CHP projects) *Deliverable Date*: August 2024

Deliverable: Draft/Final NTGRs (CHP projects) *Deliverable Date*: Ongoing

TASK 4. PROCESS EVALUATION ACTIVITIES

The evaluation team conducted a comprehensive process evaluation in 2023. We are reserving budget to complete follow-up research based on the findings of this evaluation. The specific research activities and objectives will be determined once the 2023 process evaluation report is completed.

TASK 5. IMPACT ANALYSIS

Conducting gross impact analysis for custom projects requires custom engineering calculations. Since custom projects can have large variability in measures and savings, the gross impact analysis for the Custom Initiative will employ a sample-based, bottom-up approach to estimating gross savings. Consistent with prior years, the impact analysis will be based on site-specific engineering desk reviews and on-site measurement and verification.

We will conduct engineering desk reviews and on-site data measurement and verification for a sample of projects to review and verify savings assumptions. This may include an examination of existing equipment and/or the implementer's measurement and verification results. We will tailor the scope of each on-site visit to the specific measures installed at the site, but at a minimum, the review engineer will perform the following actions during the on-site visits:

- Verify that the installed measure(s), for which the Initiative participants received an incentive payment, is/are still installed and functioning, and that the quantity is consistent with the number of measures incentivized.
- Collect additional physical data to further analyze and determine the energy savings resulting from the incentivized measure(s). The pertinent data collected from each site will be determined based on an in-depth review of the site's project files and will be unique to each installed measure.

As part of this process, the team will submit formal M&V plans and reports for a minimum of six of the largest and/or most complex Custom Initiative projects. Not all Custom Initiative projects will have a written site-specific plan or report.

Based on the results determined for projects in our sample, we will calculate the gross savings-weighted realization rate (total verified gross savings divided by the total ex ante gross savings). This sample-based gross realization rate will be used to adjust the ex ante savings for the population of Custom Initiative projects. The ratio estimate of Y, the verified savings for the population of Custom projects, is:

Equation 1. Ratio Estimate of Population Total

$$\hat{Y}_R = \frac{y}{x}X$$

Where:

y = The total verified savings for the sample of projects

x = The total ex ante savings for the sample of projects

X = The ex ante savings for the population of projects

Given the timing of this evaluation plan, it is too early to predict the level of activity expected for the Custom Initiative in 2024 and desirable sample sizes for the impact evaluation. However, we will determine the optimal sampling approach based on the number, type, and size of projects completed in 2024, and target 10% relative precision at 90% confidence (90/10) by fuel type, if possible. For budgeting purposes, we assume that we will conduct 45 project

reviews. As the 2024 evaluation concludes and we update our understanding of Initiative project characteristics, we will revise our planned sample size as necessary.

In an attempt to conduct impact research in a more "real time" fashion, we will develop our sample for engineering desk reviews and on-site verification in multiple waves, using the Initiative tracking database as a sample frame. We expect to conduct up to three waves of impact research for the Custom Initiative in 2024. For each wave, we will stratify the Custom Initiative projects included in the Initiative tracking database by ex ante savings and select a number of projects proportionate to the share of final Initiative savings we project the wave represents.

We anticipate drawing separate samples for gas and electric projects and, within each sample, stratifying projects by size. Stratification by size allows us to over-sample large savers, thus ensuring that our analysis covers a sufficient share of Initiative savings. From within each stratum, we will randomly sample participants to achieve the precision and confidence targets. As necessary, we will adjust the sample size depending on participation in order to achieve the statistical targets if necessary.

In 2024, we will also stratify our sample by project type. In recent years, separating Custom Incentives and New Construction Lighting projects into separate sample frames has allowed the evaluation team to achieve improved precision around our impact evaluation results while decreasing the need for quick turn-around evaluation results at the close of the program year. We expect to employ a sampling approach that uses multiple waves for Custom Incentives, while conducting only one wave of impact evaluation for New Construction Lighting.

The team will share the results of our gross impact analysis with AIC and ICC Staff as project reviews are completed. The Excel file provided for review and discussion will feature the ex ante and verified savings for each project selected for engineering review and/or on-site measurement and verification, the resulting realization rate, and the reasons for the realization rate. Our schedule for delivering draft results will depend on several factors specific to the projects chosen for review, but we will look to meet the following milestones if possible:

- Deliver 20 completed project reviews by December 15, 2024 and hold a meeting to discuss the findings and answer any questions with AIC, its implementation team, and ICC Staff by January 30, 2025.
- Deliver 15 additional completed project reviews by January 30, 2025 and hold a meeting to discuss the findings and answer any questions with AIC, its implementation team, and ICC Staff by February 28, 2025.
- Deliver all remaining project reviews by February 28, 2025 and hold a meeting to discuss the findings and answer any questions with AIC, its implementation team, and ICC Staff by March 15, 2025.

We will calculate 2024 net savings by applying the SAG-approved NTGRs for the Custom Initiative.

Deliverable: Site visit M&V plans — *Deliverable Date*: Rolling

Deliverable: Desk review and site visit results — *Deliverable Date*: As specified above

Deliverable: Final analysis in draft report — *Deliverable Date*: March 2025

TASK 6. REPORTING

The evaluation team will provide all impact findings in the Business Program Annual Impact Evaluation Report in March 2025. The evaluation team will provide a draft report for AIC, ICC Staff, and SAG review and then deliver a final report that incorporates any comments from the review.

Deliverable: Chapter in draft annual Business Program Impact Report — *Deliverable Date*: March 15, 2025

Deliverable: Chapter in final annual Business Program Impact Report — *Deliverable Date*: April 30, 2025

TASK 7. EARLY REVIEWS

At the request of the implementation team, the evaluation team will conduct "early reviews" of in-process or pending approval Custom Initiative projects. Early reviews are designed to support a number of aims, including:

- Providing early indications to the implementation team as to whether Custom Initiative projects are likely to be successful,
- To identify data needed for the evaluation that can be collected earlier in the implementation process, and
- To help the implementation team make pre-approval decisions for large/costly Custom Initiative projects.

The evaluation team will budget for up to 15 early reviews in 2024 to support the AIC team. Deliverables will be in the form of project-specific early review memos that memorialize the evaluation team's review of projects and provide suggestions for ensuring projects are successful.

Deliverable: Project-specific early review memos *Deliverable Date*: Ongoing

EVALUATION BUDGET AND TIMELINE

Table 50 summarizes the timing and budget associated with each evaluation activity.

Table 50. Custom Initiative Evaluation Schedule and Budget for 2024

Task	Evaluation Activity	Deliverable Date	Budget
1	Initiative Material and Database Review	Ongoing	$1,900
2	Initiative Staff Interviews	June and November 2024	$6,200
3	Net-to-Gross Research	August 2024	$70,000
4	Process Evaluation Activities	TBD	$50,000
5	Impact Analysis	March 2025	$246,200
6	Draft Annual Impact Report	March 15, 2025	$29,700
	Comments from AIC and ICC Staff	Within 15 Business Days	
	Final Annual Report	April 30, 2025	
7	Early Reviews	Ongoing	$52,300
Total Budget			**$456,300**

4.2.3 SMALL BUSINESS INITIATIVE

The Small Business Initiative incentivizes customers to install energy efficient products and perform energy saving retrofits. The Initiative is implemented by program allies with experience and training in servicing the target market. The Initiative is comprised of two channels:

- **Small Business Direct Install (SBDI)**: This channel focuses on rapidly deployable lighting and refrigeration measures and targets financially and time constrained small businesses, non-profits, schools, and public sector customers. Eligible customers receive a free on-site assessment and assessment report outlining recommended measures, project costs, estimated energy savings, and estimated bill savings. A program ally then installs the equipment upgrades the customer selects. The SBDI channel is the main driver of electric savings for the Initiative.

- **Small Business Energy Performance (SBEP):** This channel targets private and public facilities located in Empower Communities and focuses on delivering building envelope upgrades, HVAC improvements, and other non-SBDI measures supported by participating Program Allies.

EVALUATION APPROACH

The 2024 evaluation of the Small Business Initiative will include both impact and process evaluation activities.

RESEARCH OBJECTIVES

IMPACT QUESTIONS

The 2024 impact evaluation will answer the following questions:

- What are the estimated gross electric energy, electric demand, natural gas, and other fuel impacts attributable to the Small Business Initiative?
- What are the estimated net electric energy, electric demand, natural gas, and other fuel impacts attributable to the Small Business Initiative?
- What is the free-ridership rate among SBDI participants?
- What is the spillover rate among Small Business Trade Allies?

PROCESS QUESTIONS

The 2024 process evaluation will seek to answer the following questions:

- How many customers participated in the Initiative? How does this compare to participation in previous years?
- What types of customers participated in the Initiative (e.g., facility types/segment)?
- How many projects were completed through the Initiative? How does this compare to previous years?
- What types of projects did customers complete? How does this compare to previous years?
- How many trade allies participated in the Initiative? How does this compare to previous years?
- What was the distribution of completed projects across the participating trade allies?
- Did customer participation meet expectations? If not, how and why was it different from expectations?
- How satisfied were participants with the SBDI channel?
- Did the Initiative experience any implementation challenges in 2024? If so, what were they, and how were they overcome?
- What changes could the Initiative make to improve the customer experience and generate greater energy savings?

EVALUATION TASKS

Table 51 outlines the planned tasks for the 2024 Small Business Initiative evaluation.

Table 51. Summary of Small Business Initiative Evaluation Activities for 2024

Task	Impact	Process	Market	Details
Initiative Material and Database Review	✓	✓		Gather information about Initiative design, implementation and performance in 2024.
Initiative Staff Interviews		✓		Explore changes made since 2024 and gather information about 2025 design and implementation.
Participant Free-Ridership Research	✓	✓	✓	Conduct free-ridership research with SBDI participants to inform updates to SAG-approved NTGRs. Explore participant satisfaction with Initiative processes.
Trade Ally Spillover Research	✓	✓	✓	Conduct spillover research with participating contractors to inform future SAG-approved NTGRs. Explore ally satisfaction with Initiative processes.
Impact Analysis	✓			Review Initiative tracking data to ensure that correct deemed input values and IL-TRM V12.0 specified algorithms are used in calculating savings. Estimate gross impacts through review of the Initiative tracking database and application of the IL-TRM V12.0. Estimate net impacts using SAG-approved NTGR values for 2024.

We describe each of these activities in detail below.

TASK 1. INITIATIVE MATERIAL AND DATABASE REVIEW

The team will conduct a comprehensive review of all Initiative materials and tracking data. This includes Business Program marketing and implementation plans, customer and ally communications, and extracts from the Business Program tracking database (i.e., AMPLIFY). We request extracts from AMPLIFY on a regular basis and will continue to communicate with AIC and Leidos about data needs.

Deliverable: Data requests *Deliverable Date*: Ongoing

TASK 2. INITIATIVE STAFF INTERVIEWS

We will develop an in-depth interview guide for 2024 to explore Initiative implementation, performance, and other topics relevant to our research objectives. We will conduct up to two interviews with Business Program staff involved in the Small Business Initiative: (1) a brief interview mid-cycle to understand the design and implementation strategy of the Initiative in 2024, allow implementation staff the opportunity to comment on the Initiative's performance to-date, and to provide time for the evaluation team to modify any research tasks as necessary and, (2) if needed, an additional interview toward the end of 2024 to follow-up on any relevant items. We will likely conduct interviews focusing on all Business Program initiatives together, but we will conduct interviews with staff specific to this initiative as needed.

Deliverable: Completed interviews *Deliverable Date*: June and November 2024

TASK 3. PARTICIPANT FREE-RIDERSHIP RESEARCH

The evaluation team will survey SBDI participants to estimate free-ridership associated with the channel.[19] The team will use the data collected to develop measure-level NTGRs, which will be used to update NTG recommendations. The

[19] The evaluation team will not research spillover associated with the channel from the participant perspective so as not to double count findings associated with Task 4.

evaluation team will also use the participant survey to collect feedback on participant satisfaction with channel processes and opportunities to improve the channel and its offerings moving forward.

Deliverable: Draft participant survey — *Deliverable Date*: June 2024

Deliverable: Draft NTGRs — *Deliverable Date*: July 2024

Deliverable: Final NTGRs — *Deliverable Date*: August 2024

Deliverable: Process results provided in a memo — *Deliverable Date*: August 2024

TASK 4. TRADE ALLY SPILLOVER RESEARCH

The evaluation team will survey active Small Business Initiative trade allies, consistent with Illinois Statewide Net-to-Gross Methodologies as outlined in Volume 4 of the IL-TRM V12.0, to estimate the trade ally perspective on program spillover. The team will use the data collected to develop an Initiative-level spillover value to be incorporated into the 2024 NTG recommendation process. The evaluation team will also collect feedback on ally satisfaction with Initiative processes and opportunities to improve the Initiative and its offerings moving forward.

Deliverable: Draft survey instrument — Deliverable Date: May 2024

Deliverable: Draft analysis results — Deliverable Date: June 2024

Deliverable: Final analysis results — Deliverable Date: July 2024

Deliverable: Spillover and process findings memo — Deliverable Date: July 2024

TASK 5. IMPACT ANALYSIS

To estimate verified gross impacts associated with measures installed through the Small Business Initiative, we will conduct an IL-TRM application review for all Small Business Initiative projects. We will review Initiative tracking data to ensure that correct deemed input values and IL-TRM V12.0 algorithms are used in calculating gross savings and will replicate savings calculations to ensure accuracy. We will also review and verify any custom savings approaches used for the SBEP channel. We will calculate net savings by applying the SAG-approved NTGRs for 2024 to electric and gas gross savings.

In addition to the year-end final impact analysis, we will complete and deliver an interim impact analysis memo in August 2024 to provide the implementation team with early feedback on the performance of the Initiative.

Deliverable: Interim impact analysis memo — *Deliverable Date*: August 2024

Deliverable: Results provided in annual report — *Deliverable Date*: March 15, 2025

TASK 6. REPORTING

The evaluation team will provide all impact findings in the Business Program Annual Impact Evaluation Report in March 2025. The evaluation team will provide a draft report for AIC, ICC staff, and SAG review and then deliver a final report that incorporates any comments from the review.

Deliverable: Chapter in draft annual Business Program impact report — *Deliverable Date*: March 15, 2025

Deliverable: Chapter in final annual Business Program impact report — *Deliverable Date*: April 30, 2025

EVALUATION BUDGET AND TIMELINE

Table 52 summarizes the timing and budget associated with each evaluation activity.

Table 52. Small Business Initiative Evaluation Schedule and Budget for 2024

Task	Evaluation Activity	Deliverable Date	Budget
1	Initiative Material and Database Review	Ongoing	$2,400
2	Initiative Staff Interviews	June and November 2024	$9,000
3	Participant Free-Ridership Research	August 2024	$50,000
4	Trade Ally Spillover Research	August 2024	$45,000
5	Impact Analysis	August 2024 and March 2025	$45,200
6	Draft Annual Impact Report	March 15, 2025	$36,400
	Comments from AIC and ICC Staff	Within 15 Business Days	
	Final Annual Report	April 30, 2025	
Total Budget			**$188,000**

4.2.4 MIDSTREAM INITIATIVE

The Midstream Initiative provides incentives to distributors and wholesalers to reduce prices at the point of sale for efficient equipment. The goal is to increase the adoption of high efficiency equipment without requiring the end-customer to submit an incentive application. The Initiative includes three channels:

- **Midstream Lighting**: The Midstream Lighting Channel incentivizes the sale of linear LED lamps, wall packs, exit signs, and mogul-based LED lamps at the distributor level and is a significant contributor of savings for the portfolio.
- **Midstream HVAC**: The Midstream HVAC Channel incentivizes the sale of air source heat pumps, single package and split air conditioners, advanced thermostats, notched V-belts, and air source heat pump water heaters.
- **Midstream Food Service**: The Midstream Food Service Channel incentivizes the sale of commercial food service equipment such as freezer/refrigerator doors, griddles, fryers, ovens, and broilers. This channel is implemented at a statewide level.

EVALUATION APPROACH

The 2024 evaluation of the Midstream Initiative will include both impact and process evaluation activities.

RESEARCH OBJECTIVES

IMPACT QUESTIONS

The 2024 impact evaluation will answer the following questions:

- What are the estimated gross electric energy, electric demand, natural gas, and other fuel impacts attributable to the Midstream Initiative?
- What are the estimated net electric energy, electric demand, natural gas, and other fuel impacts attributable to the Midstream Initiative?

PROCESS QUESTIONS

The 2024 process evaluation will seek to answer the following questions:

- How many customers participated in the Initiative? How does this compare to participation in previous years?
- How many projects were completed through the Initiative? How does this compare to previous years?
- What types of projects did customers complete? How does this compare to previous years?
- How many trade allies participated in the Initiative? How does this compare to previous years?
- What was the distribution of completed projects across the participating trade allies?
- Did customer participation meet expectations? If not, how and why was it different from expectations?
- Did the Initiative experience any implementation challenges in 2024? If so, what were they, and how were they overcome?
- What changes could the Initiative make to improve the customer experience and generate greater energy savings?

EVALUATION TASKS

Table 53 outlines the planned tasks for the 2024 Midstream Initiative evaluation.

Table 53. Summary of Midstream Initiative Evaluation Activities for 2024

Task	Impact	Process	Market	Details
Initiative Material and Database Review	✓	✓		Gather information about Initiative design, implementation and performance in 2024.
Initiative Staff Interviews		✓		Explore changes made since 2023 and gather information about 2024 design and implementation.
Impact Analysis	✓			Review Initiative tracking data to ensure that correct deemed values and IL-TRM V12.0 specified algorithms are used in calculating savings. Estimate gross impacts through review of the tracking database and application of the IL-TRM V12.0. Determine 2024 net impacts using SAG-approved NTGR values.

We describe each of these activities in detail below.

TASK 1. INITIATIVE MATERIAL AND DATABASE REVIEW

The team will conduct a comprehensive review of all Initiative materials and tracking data. This includes Business Program marketing and implementation plans, customer and ally communications, and extracts from the Business Program tracking database (i.e., AMPLIFY). We request extracts from AMPLIFY on a regular basis and will continue to communicate with AIC and Leidos about data needs.

Deliverable: Data requests *Deliverable Date*: Ongoing

TASK 2. INITIATIVE STAFF INTERVIEWS

We will develop an in-depth interview guide for 2024 to explore Initiative implementation, performance, and other topics relevant to our research objectives. We will conduct up to two interviews with Business Program staff involved in the Midstream Initiative: (1) a brief interview mid-cycle to understand the design and implementation strategy of the Initiative in 2024, allow implementation staff the opportunity to comment on the Initiative's performance to-date, and to

provide time for the evaluation team to modify any research tasks as necessary and, (2) if needed, an additional interview toward the end of 2024 to follow-up on any relevant items.

Deliverable: Completed interviews *Deliverable Date*: June and November 2024

TASK 3. IMPACT ANALYSIS

To estimate verified gross impacts associated with measures installed through the Midstream Initiative, we will conduct an IL-TRM application review for all Midstream projects. We will review Initiative tracking data to ensure that correct deemed input values and IL-TRM V12.0 algorithms are used in calculating gross savings and will replicate savings calculations to ensure accuracy. We will calculate net savings by applying the SAG-approved NTGRs for 2024 to gross savings.

In addition to the year-end final impact analysis, we will complete and deliver an interim impact analysis memo in August 2024 to provide the implementation team with early feedback on the performance of the Initiative.

Deliverable: Interim impact analysis memo *Deliverable Date*: August 2024

Deliverable: Analysis in draft annual impact evaluation report *Deliverable Date*: March 2025

TASK 4. REPORTING

The evaluation team will provide all impact findings in the Business Program Annual Impact Evaluation Report in March 2025. The evaluation team will provide a draft report for AIC, ICC staff, and SAG review and then deliver a final report that incorporates any comments from the review.

Deliverable: Chapter in draft annual Business Program impact report *Deliverable Date*: March 15, 2025

Deliverable: Chapter in final annual Business Program impact report *Deliverable Date*: April 30, 2025

EVALUATION BUDGET AND TIMELINE

Table 54 summarizes the timing and budget associated with each evaluation activity.

Table 54. Midstream Initiative Evaluation Schedule and Budget for 2024

Task	Evaluation Activity	Deliverable Date	Budget
1	Initiative Material and Database Review	Ongoing	$16,400
2	Initiative Staff Interviews	June and November 2024	$21,300
3	Impact Analysis	August 2024 and March 2025	$98,600
4	Draft Annual Impact Report	March 15, 2025	$28,500
	Comments from AIC and ICC Staff	Within 15 Business Days	
	Final Annual Report	April 30, 2025	
Total Budget			**$164,800**

4.2.5 RETRO-COMMISSIONING INITIATIVE

The Retro-Commissioning (RCx) Initiative helps AIC business and public sector customers identify and implement no-cost and low-cost efficiency optimizations to achieve energy savings in existing energy-using systems. Over time, deferred maintenance and changing operating directives and practices can lead to inefficient operation of building systems. Retro-commissioning is a process that examines current operations relative to the needs of equipment owners and those served by the equipment and determines opportunities for increasing equipment efficiency through maintenance, system tune-ups, scheduling, and optimization of operations.

The Initiative includes the following channels:

- Large Facilities RCx
- Industrial Refrigeration
- Retro-Commissioning Lite
- Virtual Commissioning[20]
- Monitoring-Based Retro-Commissioning

EVALUATION APPROACH

The 2024 evaluation of the Retro-Commissioning Initiative will include both impact and process evaluation activities.

RESEARCH OBJECTIVES

IMPACT QUESTIONS

The 2024 impact evaluation will answer the following questions:

- What are the estimated gross electric energy, electric demand, natural gas, and other fuel impacts attributable to the Retro-Commissioning Initiative?
- What are the estimated net electric energy, electric demand, natural gas, and other fuel impacts attributable to the Retro-Commissioning?

PROCESS QUESTIONS

The 2024 process evaluation will seek to answer the following questions:

- How many customers participated in the Initiative? How does this compare to participation in previous years?
- What types of customers participated in the Initiative (e.g., facility types/segment)?
- How many projects were completed through the Initiative? How does this compare to previous years?
- What types of projects did customers complete? How does this compare to previous years?
- How many trade allies participated in the Initiative? How does this compare to previous years?
- What was the distribution of completed projects across the participating trade allies?
- Did customer participation meet expectations? If not, how and why was it different from expectations?

[20] While the Virtual Commissioning Channel is a component of the Retro-Commissioning Initiative, its evaluation plan is provided separately in Section 4.2.6 due to substantial differences in required evaluation activities.

- Did the Initiative experience any implementation challenges in 2024? If so, what were they, and how were they overcome?
- What changes could the Initiative make to improve the customer experience and generate greater energy savings?

EVALUATION TASKS

Table 55 outlines the planned tasks for the 2024 Retro-Commissioning Initiative evaluation.

Table 55. Summary of Retro-Commissioning Initiative Evaluation Activities for 2024

Task	Impact	Process	Market	Details
Initiative Material and Database Review	✓	✓		Gather information about Initiative design, implementation and performance in 2024.
Initiative Staff Interviews		✓		Explore changes made since 2023 and gather information about 2024 design and implementation.
Impact Analysis	✓			Review project documentation and calculations to identify analytical errors, incorrect assumptions, etc. Collect on-site data to inform measure verification and verified gross impacts. Determine 2024 net impacts using SAG-approved NTGR values.

We describe each of these activities in detail below.

TASK 1. INITIATIVE MATERIAL AND DATABASE REVIEW

The team will conduct a comprehensive review of all Initiative materials and tracking data. This includes Business Program marketing and implementation plans, customer and ally communications, and extracts from the Business Program tracking database (i.e., AMPLIFY). We request extracts from AMPLIFY on a regular basis and will continue to communicate with AIC and Leidos about data needs.

Deliverable: Data requests *Deliverable Date*: Ongoing

TASK 2. INITIATIVE STAFF INTERVIEWS

We will develop an in-depth interview guide for 2024 to explore Initiative implementation, performance, and other topics relevant to our research objectives. We will conduct up to two interviews with Business Program staff involved in the Retro-Commissioning Initiative: (1) a brief interview mid-cycle to understand the design and implementation strategy of the Initiative in 2024, allow implementation staff the opportunity to comment on the Initiative's performance to-date, and to provide time for the evaluation team to modify any research tasks as necessary and, (2) if needed, an additional interview toward the end of 2024 to follow-up on any relevant items.

Deliverable: Completed interviews *Deliverable Date*: June and November 2024

TASK 3. IMPACT ANALYSIS

Conducting gross impact analysis for retro-commissioning projects requires custom engineering calculations. Retro-commissioning projects can have large variability in savings among participants. Sources of variability include the physical size of the participant site, the systems installed, the condition of systems prior to retro-commissioning, the extent of control capabilities, the scope and quality of the retro-commissioning study itself, and the willingness of customers to implement recommendations. To appropriately represent this variability, the gross impact analysis for the

Retro-Commissioning Initiative will employ a bottom-up approach to estimating gross savings. Consistent with prior years, the impact analysis will be based on site-specific engineering desk reviews[21] and on-site M&V (as needed).

Given the timing of this evaluation plan, it is too early to predict the level of activity for the Initiative in 2024. However, based on the level of activity observed in recent years, the evaluation team expects to evaluate impacts for a census of RCx projects completed in 2024. For budgeting purposes, we have assumed that we will conduct 8 engineering reviews and four on-site visits. If participation exceeds 10 projects, we will switch to a sample based evaluation, determine the optimal approach based on the number and types of completed projects, and target 90/10 confidence and precision around our results, by fuel type. As needed, and as project completion timing allows, we will conduct our impact analysis in multiple waves to expedite our 2024 evaluation results.

The team will share the results of our gross impact analysis with AIC and ICC staff via Excel file in advance of submitting the draft annual report. The Excel file provided for review and discussion will feature the ex ante and verified savings for each project selected for engineering review and for each site selected for on-site measurement and verification, the resulting realization rate, and the reasons for the realization rate. To the degree time allows, we will also hold a meeting with AIC and its implementation team, as well as with ICC staff, to discuss the findings and answer any questions.

We will calculate 2024 net savings by applying SAG-approved NTGRs to electric and gas gross savings.

Deliverable: Gross impact analysis summary spreadsheet *Deliverable Date*: TBD[22]

Deliverable: Final analysis in annual report *Deliverable Date*: March 2025

TASK 4. REPORTING

The evaluation team will provide all impact findings in the Business Program annual impact evaluation report in March 2025. The evaluation team will provide a draft report for AIC, ICC staff, and SAG review and then deliver a final report that incorporates any comments from the review.

Deliverable: Chapter in draft annual Business Program impact report *Deliverable Date*: March 15, 2025

Deliverable: Chapter in final annual Business Program impact report *Deliverable Date*: April 30, 2025

EVALUATION BUDGET AND TIMELINE

Table 56 summarizes the timing and budget associated with each evaluation activity.

Table 56. Retro-Commissioning Initiative Evaluation Schedule and Budget for 2024

Task	Evaluation Activity	Deliverable Date	Budget
1	Initiative Material and Database Review	Ongoing	$3,900
2	Initiative Staff Interviews	June and November 2024	$2,200
3	Impact Analysis	March 2025	$43,000
4	Draft Annual Impact Report	March 15, 2025	$2,900
	Comments from AIC and ICC Staff	Within 15 Business Days	
	Final Annual Report	April 30, 2025	
Total Budget			**$52,000**

[21] As needed, engineering desk reviews will include consumption analysis and modeling on a project-specific basis.
[22] This is dependent upon the sampling approach chosen for 2024.

4.2.6 VIRTUAL COMMISSIONING CHANNEL

Virtual Commissioning is an approach that remotely targets the traditionally hard-to-reach customer segment of small and medium business customers to support low- and no-cost energy-saving measures. The VCx approach leverages Advanced Metering Infrastructure (AMI) data to support targeted insights for hard-to-reach customers through the design, implementation, and evaluation phases of the channel.

Power TakeOff uses their internal software to complete an initial analysis of AMI data from AIC's small and medium business customers to identify prospective participants. Power TakeOff then uses the outcomes of this analysis to remotely identify opportunities for low- and no-cost energy-saving improvements at the participants' facilities. These opportunities commonly include HVAC system modifications and lighting scheduling adjustments.

Power TakeOff energy advisors then contact potential participants to share the results of the analysis, confirm the energy-saving opportunities, and verify facility characteristics. After participants implement the recommended changes, Power TakeOff develops individual facility-level regression models using the participants' pre- and post-participation energy and gas consumption to estimate savings. The models must meet certain criteria for robustness in order for Power TakeOff to claim savings. If a project both demonstrates continued savings for three months and meets the model robustness criteria, Power TakeOff can claim annualized savings for the project for the program year.

EVALUATION APPROACH

The 2024 evaluation of the VCx Channel will include both impact and process evaluation activities.

RESEARCH OBJECTIVES

IMPACT QUESTIONS

The 2024 impact evaluation will answer the following questions:

- What are the estimated gross electric energy and electric demand impacts attributable to the VCx Channel?
- What are the estimated net electric energy and electric demand impacts attributable to the VCx Channel?
- What are the free-ridership and spillover rates among participants?

PROCESS QUESTIONS

The 2024 process evaluation will answer the following questions:

- How many customers participated in the channel? How does this compare to participation in previous years?
- What types of customers participated in the channel (e.g., facility types/segment)?
- How many projects were completed through the Initiative? How does this compare to previous years?
- How satisfied were participants with the channel?
- Did the Initiative experience any implementation challenges in 2024? If so, what were they, and how were they overcome?
- What changes could the Initiative make to improve the customer experience and generate greater energy savings?

EVALUATION TASKS

Table 57 outlines the planned tasks for the 2024 VCx Channel evaluation.

Table 57. Summary of Virtual Commissioning Channel Evaluation Activities for 2024

Task	Impact	Process	Market	Details
Initiative Material and Database Review	✓	✓		Gather information about Initiative design, implementation and performance in 2024.
Initiative Staff Interviews		✓		Explore changes made since 2023 and gather information about 2024 design and implementation.
Net-to-Gross Research	✓	✓	✓	Conduct NTG research with participating customers to inform future SAG-approved NTGRs. Explore participant satisfaction with channel processes.
Impact Analysis	✓			Determine appropriate modeling approach for 2024. Calculate verified gross and net electric savings using the selected approach. Determine the savings due to participation in other AIC initiatives and make adjustments to account for them. Apply the SAG-approved NTGR values to estimate net impacts.

We describe each of these activities in detail below.

TASK I. CHANNEL MATERIAL AND DATABASE REVIEW

The evaluation team will conduct a comprehensive review of all channel materials and tracking data including marketing and implementation plans, customer communications, and extracts from the tracking database. We will request data extracts from Power TakeOff at up to two points throughout the implementation period. We plan to request early data extracts with participant AMI data, weather data, savings calculations details, participant information, and supporting data/project records including participant M&V workbooks. The evaluation team will work with Power TakeOff and AIC to determine the appropriate times to request the data extracts based on the number of participants and post-period data availability. The evaluation team will use these initial extracts to set up our data cleaning and modeling approach to prepare for receiving complete 2024 data in January. Upon receipt of the data, we will conduct data reviews to ensure we have the appropriate data inputs listed in the data request and we will follow up as necessary to obtain any additional data.

Deliverable: Data requests *Deliverable Date*: Ongoing

TASK 2. CHANNEL STAFF INTERVIEWS

We will conduct early evaluation interviews with AIC and Power TakeOff staff to confirm our understanding of VCx design and implementation in 2024. These interviews will provide AIC and implementation staff with an opportunity to discuss their goals for the channel, highlight evaluation priorities for 2024, and share early insights on the channel's performance. We plan to conduct one interview early in the implementation period and another at the end of the year with Power TakeOff and AIC/Leidos for a total of four interviews.

Deliverable: Completed interviews *Deliverable Date*: June and November 2024

TASK 3. NET-TO-GROSS RESEARCH

The evaluation team will survey 2024 VCx participants, consistent with Illinois Statewide Net-to-Gross Methodologies as outlined in Volume 4 of the IL-TRM V12.0, to estimate participant free-ridership and spillover associated with the channel. The team will use the data collected in 2024, combined with data collected in 2023, to develop a channel-level NTGR to inform future SAG-approved NTGRs. The evaluation team will also collect feedback on participant satisfaction with channel processes and opportunities to improve the channel and its offerings moving forward.

Deliverable: Final NTGRs *Deliverable Date*: August 2024

Deliverable: Process results provided in a memo *Deliverable Date*: September 2024

TASK 4. IMPACT ANALYSIS

Per discussion and agreement with AIC and Power TakeOff, the evaluation and implementation teams have agreed upon a common modeling approach to analyze project results, detailed in past evaluation reports. We will employ the agreed upon modelling approach in 2024 to calculate verified savings and confirm whether the models meet the robustness criteria required to claim savings. The evaluation team will apply the Illinois SAG-approved NTGR to estimate net impacts.

In addition, the evaluation team will calculate a savings adjustment to account for the portion of net savings estimated from the VCx impact analysis that have already been claimed by other AIC initiatives. A key objective of VCx is to channel small and medium businesses, a previously underserved segment, into other AIC initiatives. Savings from the VCx channel reflect both non-purchase behavioral changes, such as adjusting lighting schedules or HVAC systems, and purchase behaviors. Therefore, savings from equipment that is rebated through other AIC initiatives will appear in both the savings results for the VCx channel and savings results for rebate initiatives, which will result in the double counting of savings if adjustments are not made. The evaluation team will base the savings associated with participation in other AIC initiatives on the results of their respective 2024 impact evaluations. As such, the team will conduct a joint savings analysis to calculate adjusted net savings estimates. The joint savings analysis identifies the portion of savings from the VCx interventions that is double counted by the VCx channel and other AIC energy efficiency initiatives.

Deliverable: Interim joint savings results — *Deliverable Date*: October 2024

Deliverable: Findings in draft report — Deliverable Date: March 2025

TASK 5. REPORTING

The evaluation team will provide all impact findings in the Business Program annual impact evaluation report in March 2025. The evaluation team will provide a draft report for AIC, ICC staff, and SAG review and then deliver a final report that incorporates any comments from the review.

Deliverable: Chapter in draft annual Business Program impact report — *Deliverable Date*: March 15, 2025

Deliverable: Chapter in final annual Business Program impact report — *Deliverable Date*: April 30, 2025

EVALUATION BUDGET AND TIMELINE

Table 58 summarizes the timing and budget associated with each evaluation activity.

Table 58. Virtual Commissioning Channel Evaluation Schedule and Budget for 2024

Task	Evaluation Activity	Deliverable Date	Budget
1	Initiative Material and Database Review	Ongoing	$4,000
2	Initiative Staff Interviews	June and November 2024	$3,000
3	Net-to-Gross Research	June 2024	$20,300
4	Impact Analysis	March 2025	$56,100
4	Draft Annual Impact Report	March 15, 2025	$12,200
	Comments from AIC and ICC Staff	Within 15 Business Days	
	Final Annual Report	April 30, 2025	
Total Budget			**$95,600**

4.2.7 STREETLIGHTING INITIATIVE

The Streetlighting Initiative incentivizes the replacement of streetlighting using high-pressure sodium (HPS) and mercury vapor (MV) lighting with energy-efficient LED technology. The Initiative targets streetlighting for upgrades through two channels:

- **Municipality-Owned Streetlighting (MOSL)**: AIC targets municipal customers who own their streetlighting fixtures. Incentives are provided to encourage customers to replace existing MV and HPS streetlights with LED streetlights.
- **Utility-Owned Streetlighting (UOSL)**: AIC targets municipal customers who have AIC-owned streetlighting fixtures. Early replacement of functioning HPS and MV streetlights with LED streetlights is available to customers through the Initiative for a per-fixture fee. In addition, through this channel, AIC claims savings from ongoing replacement of existing AIC-owned HPS streetlighting with LED streetlights upon burnout.

EVALUATION APPROACH

The 2024 evaluation of the Streetlighting Initiative will include both impact and process evaluation activities.

RESEARCH OBJECTIVES

IMPACT QUESTIONS

The 2024 impact evaluation will answer the following questions:

- What are the estimated gross electric energy and electric demand impacts attributable to the Streetlighting Initiative?
- What are the estimated net electric energy and electric demand impacts attributable to the Streetlighting Initiative?

PROCESS QUESTIONS

The 2024 process evaluation will seek to answer the following questions:

- How many customers participated in the Initiative? How does this compare to participation in previous years?
- How many projects were completed through the Initiative? How does this compare to previous years?
- Did customer participation meet expectations? If not, how and why was it different from expectations?
- Did the Initiative experience any implementation challenges in 2024? If so, what were they, and how were they overcome?
- What changes could the Initiative make to improve the customer experience and generate greater energy savings?

EVALUATION TASKS

Table 59 outlines the planned tasks for the 2024 Streetlighting Initiative evaluation.

Table 59. Summary of Streetlighting Initiative Evaluation Activities for 2024

Task	Impact	Process	Market	Details
Initiative Material and Database Review	✓	✓		Gather information about Initiative design, implementation and performance in 2024.
Initiative Staff Interviews		✓		Explore changes made since 2023 and gather information about 2024 design and implementation.
Impact Analysis	✓			Review Initiative tracking data to ensure that correct deemed values and IL-TRM V12.0 specified algorithms are used in calculating savings. Estimate gross impacts through review of the tracking database and application of the IL-TRM V12.0. Determine 2024 net impacts using SAG-approved NTGR values.

We describe each of these activities in detail below.

TASK I. INITIATIVE MATERIAL AND DATABASE REVIEW

The team will conduct a comprehensive review of all Initiative materials and tracking data. This includes Business Program marketing and implementation plans, customer and ally communications, and extracts from the Business Program tracking database (i.e., AMPLIFY). We request extracts from AMPLIFY on a regular basis and will continue to communicate with AIC and Leidos about data needs.

Deliverable: Data requests *Deliverable Date*: Ongoing

TASK 2. INITIATIVE STAFF INTERVIEWS

We will develop an in-depth interview guide for 2024 to explore Initiative implementation, performance, and other topics relevant to our research objectives. We will conduct up to two interviews with Business Program staff involved in the Streetlighting Initiative: (1) a brief interview mid-cycle to understand the design and implementation strategy of the Initiative in 2024, allow implementation staff the opportunity to comment on the Initiative's performance to-date, and to provide time for the evaluation team to modify any research tasks as necessary and, (2) if needed, an additional interview toward the end of 2024 to follow-up on any relevant items. We will likely conduct interviews focusing on all Business Program initiatives together, but we will conduct interviews with staff specific to this Initiative, as needed.

Deliverable: Completed interviews *Deliverable Date*: June and November 2024

TASK 3. IMPACT ANALYSIS

To estimate verified gross impacts associated with measures installed through the Streetlighting Initiative, we will conduct an IL-TRM application review for all Streetlighting projects. We will review Initiative tracking data to ensure that correct deemed input values and IL-TRM V12.0 algorithms are used in calculating gross savings and will replicate savings calculations to ensure accuracy. We will calculate net savings by applying the SAG-approved NTGRs for 2024 to gross electric savings.

Deliverable: Analysis in draft annual impact evaluation report *Deliverable Date:* March 2025

TASK 4. REPORTING

The evaluation team will provide all impact findings in the Business Program Annual Impact Evaluation Report in March 2025. The evaluation team will provide a draft report for AIC, ICC staff, and SAG review and then deliver a final report that incorporates any comments from the review.

Deliverable: Chapter in draft annual Business Program impact report — *Deliverable Date*: March 15, 2025

Deliverable: Chapter in final annual Business Program impact report — *Deliverable Date*: April 30, 2025

EVALUATION BUDGET AND TIMELINE

Table 60 summarizes the timing and budget associated with each evaluation activity.

Table 60. Streetlighting Initiative Evaluation Schedule and Budget for 2024

Task	Evaluation Activity	Deliverable Date	Budget
1	Initiative Material and Database Review	Ongoing	$500
2	Initiative Staff Interviews	June and November 2024	$1,900
3	Impact Analysis	March 2025	$3,800
4	Draft Annual Impact Report	March 15, 2025	$3,800
	Comments from AIC and ICC Staff	Within 15 Business Days	
	Final Annual Report	April 30, 2025	
Total Budget			**$10,000**

4.3 VOLTAGE OPTIMIZATION PROGRAM

In 2024, AIC will be operating and claiming savings from the VO Program as part of its energy efficiency portfolio. In this section, we outline the anticipated evaluation activities for this program in 2024.

EVALUATION APPROACH

The 2024 evaluation of the VO Program focuses on estimating impacts associated with VO implementation and associated considerations.

In accordance with Illinois evaluation requirements, we will deliver a draft Annual Voltage Optimization Impact Evaluation Report on or before March 15, 2025, covering the 2024 program year. This report will include information on 2024 verified impacts.

RESEARCH OBJECTIVES

IMPACT QUESTIONS

The VO evaluation team seeks to address the following research question:

- What are the estimated net energy savings from VO?
- What are the estimated net peak demand impacts from VO?

The process evaluation for this program will be limited to annual interviews with program staff, which will aid the evaluation team's understanding of the status of the program at the start of the evaluation year and inform the team of key developments in the VO program.

EVALUATION TASKS

Table 61 summarizes the 2024 evaluation activities planned for the VO Program.

Table 61. Summary of Voltage Optimization Program Evaluation Activities for 2024

Task	Impact	Process	Market	Details
Program Staff Interviews	✓	✓		Explore program status, progress deploying VO technology, and potential ramifications for the 2024 evaluation.
Data Request and Materials Review	✓			Request data needed for impact calculations, review and assess data for quality and completeness.
Verification of VO Deployment to Date	✓			Verify ongoing operation of past VO deployments.
Impact Analyses	✓			Calculate 2024 net impacts using algorithmic approach; deliver interim impact results in May and October 2024.

TASK I. PROGRAM STAFF INTERVIEWS

We will conduct an interview with AIC engineering staff in early 2024 to learn of any changes to program design and implementation, successes and challenges encountered in deploying VO as planned, and any potential impacts changes could have on the evaluation timeline.

Deliverable: Completed interview *Deliverable Date:* April 2024

TASK 2. DATA REQUEST AND MATERIALS REVIEW

The evaluation team will request data needed to calculate impacts using the approach outlined in IL-TRM V11.0. We will conduct a comprehensive review of all data submitted in response to the data request. The data review will include a VO Program data inventory, QA/QC of submitted data, and an assessment of data coverage. We will submit data requests two or more times during 2024 to support providing interim impact results to AIC, and we will submit a final data request in early 2025 to support the final, annual impact analysis.

Deliverable: Data requests *Deliverable Date:* April 2024, September 2024, and January 2025

TASK 3. VERIFICATION OF VO DEPLOYMENT TO DATE

As an ongoing evaluation task, the evaluation team will verify continued operation of VO on circuits for each year of the study. The evaluation team will perform an analysis to verify ongoing operations of VO on a sample of circuits deployed in 2018-2023. This analysis will take place in early 2025 following a data request by January 2025.

Deliverable: VO verification findings in annual impact evaluation report *Deliverable Date:* March 2025

TASK 4. IMPACT ANALYSIS

The evaluation team will use the methodology detailed in IL-TRM V11.0 to calculate net energy savings and summer coincident peak demand impacts from VO. The evaluation team will calculate interim energy savings twice throughout 2024 before delivering final energy savings and peak demand savings results in the annual impact report in March 2025.

Deliverable: Interim memos and circuit-level savings estimates *Deliverable Date:* May and October 2024

Deliverable: Results provided in annual impact evaluation report *Deliverable Date:* March 2025

TASK 5. REPORTING

The evaluation team will provide all impact findings in the annual impact evaluation report in March 2025. The evaluation team will provide a draft report for AIC and ICC staff review and then deliver a final report that incorporates any comments from the review.

Deliverable: Draft annual Voltage Optimization Impact Report *Deliverable Date:* March 15, 2025

Deliverable: Final annual Voltage Optimization Impact Report *Deliverable Date:* April 30, 2025

EVALUATION BUDGET AND TIMELINE

Table 62 summarizes the timing and budget associated with each evaluation activity.

Table 62. Voltage Optimization Program Evaluation Schedule and Budget for 2024

Task	Evaluation Activity	Deliverable Date	Budget
1	Program Staff Interviews	April 2024	$5,000
2	Data Request and Materials Review	April, and September 2024, January 2025	$45,000
3	Verification of VO Deployment to Date	March 2025	$34,300
4	Impact Analysis	May and October 2024, March 2025	$90,200
5	Draft Annual Impact Report	March 15, 2025	$30,000
	Comments from AIC and ICC Staff	Within 15 Business Days	
	Final Annual Report	April 30, 2025	
Total Budget			**$204,500**

4.4 PILOTS AND EMERGING AREAS

4.4.1 LUMINAIRE LEVEL LIGHTING CONTROLS MARKET TRANSFORMATION PILOT

AIC is currently operating a Luminaire Level Lighting Controls (LLLC) Market Transformation Pilot. To date, AIC's Plan 6 portfolio has primarily focused on resource acquisition (RA) programs. In RA programs, the program implementer affects the decision-making and behaviors of individual actors (i.e., program participants), causing them to take actions that save energy compared to the actions they would have taken had it not been for the program intervention.

The LLLC Pilot, however, is an MT program. Theoretically, MT programs involve shifting away from focusing on individuals by changing the structure and function of an entire market. By doing so, MT programs have the potential to provide substantial benefits to society because the market dynamics the program influences further influence the actions of a much broader pool of market actors. MT programs, however, are generally more complex to design and implement because (1) they are aimed at affecting dynamic markets with an array of actors, (2) the timeframe under which MT programs operate is generally longer term, (3) the savings/impacts will be harder to measure, and (4) attribution claims will be more complicated and uncertain.

Given these considerations, the evaluation team has designed evaluation activities over a three-year time horizon (2024-2026) to help provide clarity to AIC, ICC Staff, and SAG as to how the pilot will be evaluated over the next three years;[23,24] these evaluation activities were designed to be repeated on a three year cycle as program activities continue. This section describes the activities planned for the 2024 evaluation. Note that the tasks included in this evaluation plan have been previously presented to and approved by AIC, ICC Staff, and SAG through the AIC LLLC MT Initiative Business Plan.

Note that while the LLLC Pilot is focused at transforming the market for LLLCs, it works in tandem with existing AIC prescriptive rebate programs (e.g. the Standard Initiative) that also offer financial incentives for LLLCs.

EVALUATION APPROACH

Our 2024 LLLC Pilot evaluation will include both process and impact components. The evaluation will address the following key objectives:

- Describe how the pilot was implemented.
- Explore areas for pilot improvement, including increasing its overall effectiveness and ease of implementation.
- Assess the amount of knowledge gained from the LLLC training and determine the extent to which an increase in recommendations of LLLCs to clients occurred.
- Assess annual levels of awareness and understanding of LLLCs among market actors.
- Measure how the market share of LLLCs shifted over the evaluation period.
- Estimate net energy savings associated with the LLLC Pilot.

[23] AIC and the evaluation team agreed that a three-year time horizon was the appropriate timeframe over which to plan evaluation activities for the LLLC Pilot.

[24] Note that the evaluation team is currently only under contract through the 2025 program year.

EVALUATION TASKS

Table 63 outlines the planned tasks for the 2024 LLLC Pilot evaluation.

Table 63. Summary of LLLC Pilot Evaluation Activities for 2024

Task	Impact	Process	Market	Details
Pilot Materials Review		✓		Comprehensive annual review of pilot materials to inform process, impact, and market evaluation activities
Pre- and Post-Training Assessments with Program Allies		✓		Annual surveys and interviews with program allies to estimate learning and associated changes in behavior and activities around LLLCs
Market Actor Surveys (Market-Level Measurement)			✓	Annual surveys with non-participating market actors to determine market awareness and familiarity with LLLC technology and assess key MPIs
MPI Assessments	✓		✓	Annual assessment of progress toward MPI targets
Monitor Lighting Market	✓		✓	Secondary research to track LLLC market activity to inform attribution, revisions to the NMB, and unit-level savings estimates
NLC and LLLC Sales Data Analysis	✓		✓	Annual analysis of lighting market sales data to assess market share of LLLCs in AIC territory
Mid-Year Data Analytics	✓		✓	Annual interim analysis of potential savings for the pilot
Estimation of Market Transformation Savings	✓		✓	Annual year-end estimation of MT savings

We describe each of these activities in detail below. Deliverables and associated dates will be determined between AIC and the evaluation team in early 2024.

TASK I. PILOT MATERIALS REVIEW

The evaluation team will conduct an annual, comprehensive review of all pilot materials. Materials include implementation plans, logic models, MPIs, marketing plans, materials provided to participating program allies, as well as mass marketing materials. We expect to work closely with the implementation team to request all related materials as they become available throughout the year. Our team's review of these materials will inform the process evaluation, allow us to document the design and implementation of the LLLC Pilot each year, and assess how pilot activities may shift the lighting controls market in future years.

TASK 2. PRE- AND POST-TRAINING ASSESSMENTS WITH PROGRAM ALLIES

The evaluation team will conduct annual surveys and interviews with program allies that enroll in the LLLC Pilot training sessions. We plan to conduct three rounds of assessments with training participants—that is, surveys/interviews before participating in the trainings, immediately after, and several months after the training sessions. The goals for each round are as follows:

- Pre-training assessments — Before the training, the evaluation team will develop a baseline estimate for program allies' understanding of the LLLC technology prior to participating in the training.
- Immediate post-training assessments — Immediately following the training, the evaluation team will assess program allies' reactions to and satisfaction with the training. These surveys will also inform our assessment of MPI V (i.e., increased number of trained contractors/installers).
- Post-training assessments — Several months after program allies' participation in the training, the evaluation team will assess changes in behavior and activity around LLLCs, as well as changes in comfort in promoting LLLCs to

customers. These assessments will provide valuable data points for our assessment of MPI III (i.e., increased recommendations of LLLC to customers from program allies contacted by the pilot), and MPI IV (i.e., increased installations of LLLCs to customers among outreached program allies). The post-training assessments will also provide insights on barriers to conversion of recommendations to installations and opportunities for further training, information that will inform continuous improvements of the initiative's activities.

Further, we expect results from these post-training interviews to highlight if and how pilot activities may begin to shift the lighting controls market in future years. We anticipate a census attempt for participants.

TASK 3. MARKET ACTOR SURVEYS (MARKET-LEVEL MEASUREMENT)

The evaluation team will conduct two separate annual surveys with samples of end users who did not receive incentives for LLLCs and trade allies who did not participate in any of the trainings nor receive incentives for selling LLLCs to end users. Through these surveys, our team will develop current estimates of awareness and familiarity with LLLC technology among key populations (MPI I and MPI II), savings potential of LLLCs, demand potential of LLLCs, and non-energy benefits among nonresidential building owners, property managers, decision-makers, lighting sellers, and lighting installers. Our team will also use these surveys to develop estimates of recommendation/installation prevalence (MP IIII and MPI IV).

We plan to repeat these surveys annually over the course of the program to build a base of evidence for shifts in the lighting controls market that may be attributable to the LLLC Pilot. Each year, we will use a random sampling approach for the survey; we will target a sample of end users using a simple random approach and will target a sample of trade allies using stratified random sampling; stratifying by whether the contact is considered a distributor or installer.

We will design a sample from the population of end users and trade allies to target a total of 350 completes from end users and 50 completes from trade allies. This approach will allow us to separate each population into two groups; we plan to avoid reaching out to the exact same sample of end users and trade allies every year to encourage higher response rates.

TASK 4. MPI ASSESSMENTS

Each year, the evaluation team will analyze the pre- and post-training assessments and the market actor surveys to provide directional evidence of attributable efforts from AIC. In addition, we will compare the MPI estimates to targets set by AIC and its implementation team.

Through 2026, the evaluations will focus on the short- and mid-term MPIs (MPI I through MPI V). Beginning in 2027, however, the evaluation team recommends additional focus be placed on MPI VI and MPI VII to begin measuring progress toward long-term goals.

TASK 5. MONITOR LIGHTING MARKET

Each evaluation year, the evaluation team will conduct secondary research to track LLLC market activity, both locally and nationally. This task will allow the evaluation team to stay up to date on LLLC technology advancements, the inclusion of LLLCs in codes and standards, and the support of LLLCs from other entities that may influence the AIC market. This is valuable information that can be used to inform any attribution discussions, revisions to the NMB, or revisions to unit-level savings estimates. The evaluation team will ensure this research includes reviewing key assumptions that inform the NMB forecast.

TASK 6. NLC AND LLLC SALES DATA ANALYSIS

The evaluation team proposes using annual lighting market sales data as the primary source for assessing the ongoing market share of LLLCs in the AIC service territory.[25] We will corroborate the results of the lighting market sales data analysis through a review of secondary data sources.[26] The evaluation team will analyze lighting market sales data annually to estimate the total number of LLLCs sold in the AIC service territory. We will coordinate with AIC to determine when lighting sales data should be acquired each year; purchasing the data set early in each year would allow the team to calculate impacts for the prior year and have recent forecast data available to inform mid-year potential savings estimates.

The team will use the IL-TRM to determine LLLC Unit Energy Savings (UES). Equation 2 and Equation 3 provides the current IL-TRM algorithms for LLLCs.[27]

Equation 2. IL-TRM V11.0 LLLC Electric Energy Savings Algorithm

$$\Delta kWh = KW_{Controlled} * Hours * (ESF_{EE} - ESF_{Base}) * WHF_e$$

Equation 3. IL-TRM V11.0 LLLC Summer Coincident Peak Demand Savings Algorithm

$$\Delta kW = KW_{Controlled} * WHF_d * (CF_{baseline} - CF_{LC})$$

Where:

$KW_{Controlled}$ = Total lighting load connected to the control in kilowatts.

$Hours$ = Total operating hours of the controlled lighting circuit before the lighting controls are installed.

ESF_{EE} = Energy Savings Factor (represents the percentage reduction to the operating hours from the non-controlled lighting system) from the new lighting controls installed.

ESF_{Base} = Energy Savings Factor of the lighting controls that existed before the new lighting controls were installed.

WHF_e = Waste heat factor for energy to account for cooling energy savings from efficient lighting.

WHF_d = Waste heat factor for demand to account for cooling energy savings from efficient lighting in cooled buildings.

$CF_{baseline}$ = Baseline Summer Peak Coincidence Factor for the lighting system without lighting controls installed.

CF_{LC} = Retrofit Summer Peak Coincidence Factor the lighting system with lighting controls installed is 0.15 regardless of building type.

[25] The team has identified the 'United States Commercial Lighting Market Data Set', produced by Advance Market Analytics, as source for LLLC market share data in Illinois.

[26] Examples of secondary data sources include DOE lighting market reports, regional lighting market studies, and Dodge Construction Data. Secondary data sources may also include in-depth interviews with key market actors such as AIC distributers.

[27] The IL-TRM is updated as part of a yearly process; each version of the IL-TRM corresponds to a specific program year. We will use the IL-TRM algorithm specific to each program year being evaluated throughout the course of our evaluation in alignment with Illinois requirements.

The evaluation team will conduct secondary research to develop estimations of total connected load per control, total operating hours of the controlled lighting, and the ESF of the lighting controls that existed before the new lighting controls were installed.

TASK 7. MID-YEAR DATA ANALYTICS

Each year, the evaluation team will use the annual lighting market sales data and current estimate of the market share of LLLCs in the AIC service territory combined with the most recent survey results and other secondary data sources to inform a mid-year assessment of potential savings for the program year. This will provide a generic estimate of potential savings for the program.

TASK 8. ESTIMATION OF MARKET TRANSFORMATION SAVINGS

Using lighting sales data, directional survey findings, and secondary research, the evaluation team will take the total market savings of LLLCs in Illinois and subtract the savings from the NMB estimate as shown in Equation 4.

Equation 4. MT and Incentive Energy Savings

$$MT\ Energy\ Savings_{including\ RA} = UES\ x\ Number\ of\ MT\ Units\ (Units$$

Where:

UES = UEC of baseline product/service – UEC of EE product

$Units$ = Total Market Units minus NMB Units.

To further avoid double counting with the program's RA incentives, the evaluation team will subtract all non-MT verified savings within the same market from the MT savings as shown in Equation 5.

Equation 5. MT Only Energy Savings

$$MT\ Energy\ Savings_{MT\ only} = MT\ Energy\ Savings_{including\ RA} - RA\ Incentive\ Savings$$

Where:

$RA\ Incentive\ Savings$ = savings from users who wouldn't have adopted LLLCs without the incentive, plus savings from LLLCs installed as spillover from those who received incentives, and minus savings from free riders.

It should be noted that MT savings typically take time to generate meaningful savings. As a result, the evaluation team anticipates relatively small savings in the early stages of the pilot.

TASK 9. REPORTING

The evaluation team will provide all impact findings in the Business Program Annual Impact Evaluation Report in March 2025. The evaluation team will provide a draft report for AIC, ICC Staff, and SAG review and then deliver a final report that incorporates any comments from the review.

Deliverable: Chapter in draft annual Business Program Impact Report — *Deliverable Date:* March 15, 2025

Deliverable: Chapter in final annual Business Program Impact Report — *Deliverable Date:* April 30, 2025

EVALUATION BUDGET AND TIMELINE

Table 64 summarizes the timing and budget associated with each evaluation activity.

Table 64. Summary of LLLC Pilot Evaluation Schedule and Budget for 2024

Task	Evaluation Activity	Deliverable Date	Budget
1	Pilot Materials Review	TBD	$8,800
2	Pre- and Post-Training Assessments with Trade Allies	TBD	$12,800
3	Market Actor Surveys (Market-Level Measurement)	TBD	$33,600
4	MPI Assessments	TBD	$13,500
5	Monitor Lighting Market	TBD	$9,400
6	NLC and LLLC Sales Data Analysis	TBD	$14,200
7	Mid-Year Data Analytics	TBD	$5,000
8	Estimation of Market Transformation Savings	TBD	$9,400
9	Draft Annual Impact Report	March 15, 2025	$28,300
	Comments from AIC and ICC Staff	Within 15 Business Days	
	Final Annual Report	April 30, 2025	
Total Budget			**$135,000**

4.4.2 VIRTUAL STRATEGIC ENERGY MANAGEMENT PILOT

AIC launched a Virtual Strategic Energy Management (VSEM) Pilot in partnership with Power TakeOff in 2023 and plans to continue this effort in 2024. The VSEM Pilot is designed in accordance with the Consortium for Energy Efficiency's minimum elements for effective SEM and seeks to educate participants and enable them to manage their facility's energy usage in a holistic manner. Participants will receive the training, tools, and resources they need to develop and implement a continuous energy improvement plan. The implementation team will target recruitment activities toward customers that were previously engaged through the VCx Channel and will target low and no-cost operational, maintenance, and behavioral improvements.

EVALUATION APPROACH

The 2024 evaluation of the VSEM Pilot will include both impact and process evaluation activities.

RESEARCH OBJECTIVES

IMPACT QUESTIONS

The 2024 impact evaluation will answer the following questions:

- What are the estimated gross electric energy, electric demand, and natural gas impacts attributable to the pilot?
- What are the estimated net electric energy, electric demand, and natural gas impacts attributable to the pilot?

PROCESS QUESTIONS

The 2024 process evaluation will answer the following questions:

- How many customers participated in 2024? Did customer participation meet expectations? If not, how and why was it different from expectations?
- What types of interventions/projects did participants implement?
- Did the pilot experience any implementation challenges in 2024? If so, what were they, and how were they overcome?
- What changes could the pilot make to improve the customer experience and generate greater energy savings?

EVALUATION TASKS

Table 65 outlines the planned tasks for the 2024 VSEM Pilot evaluation.

Table 65. Summary of Virtual Strategic Energy Management Pilot Evaluation Activities for 2024

Task	Impact	Process	Market	Details
Initiative Material and Database Review	✓	✓		Gather information about pilot design and implementation in 2024.
Initiative Staff Interviews		✓		
Impact Analysis	✓			Calculate verified gross and net electric savings using the selected approach. Determine the savings due to participation in other AIC initiatives and make adjustments to account for them. Apply the SAG-approved NTGR values to estimate net impacts.

We describe each of these activities in detail below.

TASK 1. INITIATIVE MATERIAL AND DATABASE REVIEW

The evaluation team will conduct a comprehensive review of all pilot materials and tracking data. We will request data extracts from Power TakeOff at up to two points throughout the implementation period. We plan to request early data extracts with participant AMI data, M&V plans, savings calculations details, participant information, and any other applicable supporting data/project records. The evaluation team will work with Power TakeOff and AIC to determine the appropriate times to request the data extracts based on the number of participants and post-period data availability. The evaluation team will use these initial materials to review Power TakeOff's proposed M&V plans and, to the degree possible, begin setting up our data cleaning and modeling approach to prepare for receiving complete 2024 data in January. Upon receipt of the data, we will conduct data reviews to ensure we have the appropriate data inputs listed in the data request and we will follow up as necessary to obtain any additional data.

Deliverable: Data requests *Deliverable Date*: Ongoing

TASK 2. INITIATIVE STAFF INTERVIEWS

We will conduct early evaluation interviews with AIC and Power TakeOff staff to confirm our understanding of the VSEM design and implementation in 2024. These interviews will provide AIC and implementation staff with an opportunity to discuss their goals for the pilot, highlight evaluation priorities for 2024, and share early insights on the pilot's performance. We plan to conduct one interview early in the implementation period and another at the end of the year with Power TakeOff and AIC/Leidos for a total of four interviews.

Deliverable: Completed interviews *Deliverable Date*: June and November 2024

TASK 3. IMPACT ANALYSIS

The nature of the VSEM pilot requires custom modeling to estimate the energy savings at each impacted facility. As part of their evaluation deliverables, Power TakeOff will provide an M&V plan for each site defining how the implementation team estimated ex ante energy and demand savings. The evaluation team will review these M&V plans, including the model definitions and available data, to assess the appropriateness of the ex ante approach. In cases where we determine the implementation team applied the appropriate approach, we will employ the same modeling approach to calculate verified savings. In cases where we determine a different modeling approach is more appropriate, we will deviate from the ex ante approach and calculate verified savings using a custom model defined by the evaluation team.

In addition, the evaluation team will calculate a savings adjustment to account for the portion of savings estimated through the VSEM impact analysis that have already been claimed by other AIC initiatives. Savings from the VSEM analysis will reflect both non-purchase behavioral changes, such as the operations and maintenance adjustments targeted through the pilot, as well as purchase behaviors. Therefore, savings from equipment that is rebated through other AIC Initiatives will appear in both the savings results for the VSEM pilot and savings results for rebate initiatives, which will result in the double counting of savings if adjustments are not made. The evaluation team will base the savings associated with participation in other AIC initiatives on the results of their respective 2024 impact evaluations. As such, the team will conduct a joint savings analysis to calculate adjusted net savings estimates. The joint savings analysis identifies the portion of savings from the VSEM interventions that is double counted by the VSEM pilot and other AIC energy efficiency initiatives.

Deliverable: Interim joint savings results — *Deliverable Date*: October 2024

Deliverable: Findings in draft report — Deliverable Date: March 2025

TASK 4. REPORTING

The evaluation team will provide all impact findings in the Business Program annual impact evaluation report in March 2025. The evaluation team will provide a draft report for AIC, ICC staff, and SAG review and then deliver a final report that incorporates any comments from the review.

Deliverable: Chapter in draft annual Business Program impact report — *Deliverable Date*: March 15, 2025

Deliverable: Chapter in final annual Business Program impact report — *Deliverable Date*: April 30, 2025

EVALUATION BUDGET AND TIMELINE

We have reserved $32,000 for the evaluation of the VSEM pilot in 2024. Evaluation activities will be scoped dependent on need.

4.4.3 ENERGY ANALYZER PILOT

AIC is considering launching an Energy Analyzer Pilot with nonresidential customers in 2024. Energy analyzer platforms typically enable customers to better manage their energy usage by providing them with several tools, including functionality to explore their energy usage at a granular level, benchmarking of their current energy usage against their historic usage, and benchmarking against peer facilities in the same sector. The platforms can also provide customers with information about utility energy efficiency offerings they may be eligible to participate in. Past research in Illinois[28]

[28] PY9 ComEd Business Energy Analyzer Program Impact Evaluation Report. Navigant. August 22, 2018. https://www.ilsag.info/wp-content/uploads/SAG_files/Evaluation_Documents/ComEd/ComEd_EPY9_Evaluation_Reports_Final/ComEd_PY9_Agentis_BEA_Evaluation_Report_2018-08-22.pdf

has indicated that such programs can lead to significant energy savings through capital, behavioral, and operational upgrades made by customers attributed to the use of energy analyzer tools. We provide this evaluation plan to outline how we would expect to evaluate energy savings from this pilot should AIC decide to implement it.

EVALUATION APPROACH

The 2024 evaluation of the Energy Analyzer Pilot will include both impact and process evaluation activities.

RESEARCH OBJECTIVES

IMPACT QUESTIONS

The 2024 impact evaluation will answer the following questions:

- What are the estimated gross electric energy and demand impacts attributable to the pilot?
- What are the estimated net electric energy and demand impacts attributable to the pilot?

PROCESS QUESTIONS

The 2024 process evaluation will answer the following questions:

- How many customers participated in 2024? Did customer participation meet expectations? If not, how and why was it different from expectations?
- Did the pilot experience any implementation challenges in 2024? If so, what were they, and how were they overcome?
- What changes could the pilot make to improve the customer experience and generate greater energy savings?

EVALUATION TASKS

Table 66 outlines the planned tasks for the 2024 Energy Analyzer Pilot evaluation.

Table 66. Summary of Energy Analyzer Pilot Evaluation Activities for 2024

Activity	Impact	Process	Market	Details
Initiative Material and Database Review	✓	✓		Gather information about pilot design and implementation in 2024.
Initiative Staff Interviews		✓		
Impact Analysis	✓			Calculate verified net electric and gas savings using the selected approach. Determine the savings due to participation in other AIC initiatives and make adjustments to account for them.

We describe each of these activities in detail below.

TASK I. INITIATIVE MATERIAL AND DATABASE REVIEW

The evaluation team will conduct a comprehensive review of all pilot materials and data to inform our evaluation approach. This will include information on enrolled customers, the functionality of the energy analyzer platform, and consumption data from before and after each customer's engagement in the pilot. As applicable, we will also review control or comparison groups selected by the implementation team to support savings estimates; if needed, we will

conduct an equivalency analysis to ensure that the control or comparison group is truly comparable and deliver results to AIC.

Deliverable: Data requests *Deliverable Date*: Ongoing

TASK 2. INITIATIVE STAFF INTERVIEWS

We will conduct early evaluation interviews with AIC and Power TakeOff staff to confirm our understanding of the Energy Analyzer pilot design and implementation in 2024. These interviews will provide AIC and implementation staff with an opportunity to discuss their goals for the pilot, highlight evaluation priorities for 2024, and share early insights on the pilot's performance. We plan to conduct one interview early in the implementation period and another at the end of the year with Power TakeOff and AIC/Leidos for a total of four interviews.

Deliverable: Completed interviews *Deliverable Date*: June and November 2024

TASK 3. IMPACT ANALYSIS

Given the nature of the impacts expected to be associated with the pilot, we expect to conduct a consumption analysis-based impact evaluation using AMI data. The specific details of the impact analysis methodology we use to estimate savings for this pilot will be dependent on the implementation strategy selected.

From an evaluation perspective, designing the pilot as a randomized controlled trial (RCT) would be optimal and allow for robust, unbiased estimates of program savings. An RCT is a study design which takes a set of customers with similar attributes, and randomly assigns them to either a treatment group (i.e., those who will be given access to the Energy Analyzer platform) or a control group. Using a RCT design eliminates self-selection bias (i.e., signing up for the Energy Analyzer platform) and strengthens the internal validity of the analysis, but may be challenging from an implementation perspective as Energy Analyzer platforms are most commonly opt-in services.

If the pilot is not implemented as an RCT, some type of quasi-experimental design (QED) will likely be the next best option for estimating impacts. At a high level, QED uses non-random methods to develop a comparison group when a randomly selected control group is not available. There are many types of QED, and if this approach is needed, the evaluation team will coordinate with AIC and its implementation partners to ensure we understand the implementation strategy of the pilot and determine the appropriate methodology for the evaluation.

Regardless of whether an RCT or QED design is leveraged to estimate savings, the savings estimates for the pilot would reflect capital, behavioral, and operational changes. Therefore, there would be risk of double counting savings from equipment upgrades incentivized through other AIC initiatives. The evaluation team would calculate a savings adjustment to account for the portion of net savings estimated from the consumption analysis that would already have been claimed through other AIC initiatives. The evaluation team would base the savings associated with participation in other AIC initiatives on the results of their respective 2024 impact evaluations. The team would conduct a participation lift and joint savings analysis to assess trends in initiative participation during 2024 and calculate adjusted net savings estimates using the results of this analysis.

Deliverable: Final analysis in draft report *Deliverable Date*: March 2025

TASK 4. REPORTING

The evaluation team will provide all impact findings in the Business Program annual impact evaluation report in March 2025. The evaluation team will provide a draft report for AIC, ICC staff, and SAG review and then deliver a final report that incorporates any comments from the review.

Deliverable: Chapter in draft annual Business Program impact report — *Deliverable Date*: March 15, 2025

Deliverable: Chapter in final annual Business Program impact report — *Deliverable Date*: April 30, 2025

EVALUATION BUDGET AND TIMELINE

We have reserved $50,000 for the evaluation of the Energy Analyzer pilot in 2024. Evaluation activities will be scoped dependent on need.

4.5 COMPLIANCE AND STAKEHOLDER ENGAGEMENT ACTIVITIES

As part of our 2024 evaluation plan, we provide a number of cross-cutting compliance and stakeholder engagement services to AIC that are not specific to any planned program evaluations. Planned activities for 2024 are detailed below.

4.5.1 GAS ADJUSTABLE SAVINGS GOALS REVIEW FOR 2025

As outlined by the Policy Manual, during each year of Plan 6, AIC will file annual adjustments to its gas energy savings goals resulting from updates or changes to the IL-TRM.[29] As required by the Policy Manual, Opinion Dynamics, as AIC's independent evaluator, must verify in advance of the filing that the adjustments to the energy savings goals have been performed accurately. As we have in prior years, we will work with AIC to receive its updated adjustable goals tracker in December 2024 and complete our review by January 2025 to align with the Policy Manual's requirements.

We have reserved $15,000 of evaluation budget to support this activity in 2024.

4.5.2 ECONOMIC AND EMPLOYMENT IMPACTS ANALYSIS

Illinois statute requires Illinois program administrators to report estimates of job and macroeconomic impacts from their energy efficiency portfolios annually at the conclusion of each year's annual impact reporting cycle (April 30 following the year of program implementation).[30] During 2018 and 2019, the evaluation team collaborated with the ComEd evaluation team to develop a methodology for estimating these impacts, which was approved by the Illinois SAG.

This analysis is currently conducted using a plug-and-play multiplier-based approach, built in Microsoft Excel, that uses portfolio savings estimates and cost information to estimate job and macroeconomic impacts. We will provide these estimates as part of the 2024 Annual Integrated Impact Evaluation Report.

We have reserved $10,000 of evaluation budget to support this activity in 2024.

[29] Illinois Energy Efficiency Policy Manual Version 3.0, Section 6.2.
[30] Reporting requirements are further defined in the Policy Manual.

4.5.3 ILLINOIS STATEWIDE TECHNICAL REFERENCE MANUAL SUPPORT

The evaluation team is actively involved in the annual IL-TRM update process in a number of ways:

- We are regular participants in Illinois Technical Advisory Committee (TAC) meetings, including participation in weekly calls, as well as reviewing and commenting on IL-TRM update items presented to the TAC. This includes participation in TAC subgroups as needed, including the IQ TRM Working Group.[31]
- We coordinate and collaborate with other Illinois evaluation teams as needed on key IL-TRM related research.
- We develop workpapers to update the IL-TRM based on evaluation research conducted in prior years and discuss these updates with the Illinois TRM Administrator and other interested parties as needed.
- We reserve ad-hoc budget and time to support the IL-TRM Administrator, VEIC, and other Illinois stakeholders in all of the above.

In addition, we scope and execute research activities outside of annual program evaluations and specifically designed to result in IL-TRM updates on an as-needed basis. Throughout Plan 6, we will coordinate with AIC, its implementation team, and other Illinois stakeholders to identify and pursue research to update the IL-TRM.

We have reserved $125,000 of evaluation budget to support this activity in 2024.

4.5.4 COST-EFFECTIVENESS ANALYSIS AND SUPPORT

Section 8-103B and Section 8-104 direct utilities to operate cost-effective energy efficiency programs, and to demonstrate that their energy efficiency portfolios are cost-effective using the Illinois Total Resource Cost (TRC) test. In accordance with law, relevant ICC orders, and policy developed by the Illinois SAG, we conduct a cost-effectiveness analysis of AIC's energy efficiency portfolio on an annual basis.

Cost-effectiveness testing for the Illinois TRC conducted as part of our annual evaluations will align with national standard practice, as well as directives presented in the Policy Manual, and will incorporate information from AIC program tracking data, Opinion Dynamics' annual evaluations of AIC's portfolio, and supporting information from the IL-TRM.

To assess cost-effectiveness, the team monetizes each initiative's net resource benefits, as measured by the avoided costs, total incremental costs of measures installed, and administrative costs to calculate initiative-level benefit-cost ratios. These results are aggregated to produce program- and portfolio-level benefit-cost ratios, as well. We will work closely with AIC and its implementer to ensure we accurately capture costs and benefits associated with the portfolio.

State law requires AIC's energy efficiency portfolio to be cost-effective at the portfolio level,[32] but does not prescribe cost-effectiveness requirements at the program level. Nevertheless, to the degree possible, our analysis will provide insights into the cost-effectiveness of various components of AIC's portfolio to provide further insight for program planning. In addition to the Illinois TRC test, we will conduct the program administrator cost test (PA/UCT) to support SAG requested reporting.

[31] Participation in the Illinois NTG Working Group is discussed in Section 4.5.7.

[32] State law specifically excepts measures delivered to low-income customers from this requirement, which means that the cost-effectiveness requirement is for the portfolio, less all effects of low-income programs.

We will report the results of our analysis in an annual verified cost-effectiveness report to be delivered after yearly program impacts have been finalized. We will utilize best efforts to provide the final verified cost-effectiveness report for each program year no later than July 1 in the year following implementation.

Additionally, we will provide ad hoc support to AIC and its implementation teams by screening proposed measures and implementation scenarios for cost-effectiveness.

We have reserved $50,000 of evaluation budget to support this activity in 2024.

4.5.5 REGULATORY TESTIMONY IN RIDER EE DOCKET

As required in AIC's stipulated agreement for Plan 6,[33] as AIC's independent evaluator, Opinion Dynamics is required to participate in AIC's annual Rider EE update docket, including but not limited to the following activities:

- Filing of concise direct testimony that:
  - Provides a high level summary of our annual evaluation reports,
  - Summarizes annual incremental savings achieved that can be counted toward AIC's 2024 AAIG and explains how those calculations were performed,
  - Summarizes CPAS achieved that can be counted toward AIC's 2024 CPAS goal and explains how those calculations were performed, and
  - Describes any disputes that have been documented in evaluation reports in accordance with the Policy Manual.
- Responding to any data requests we are served by parties to the proceeding;
- Filing testimony in response to any issues raised with evaluation reports and available to provide oral testimony at the evidentiary hearing while being represented by our own counsel;
- Filing any corrections or errata to our reports; and
- Retain our own legal counsel to appear at the evidentiary hearing and move for admission into the record of our reports, evaluations, testimonies, affidavits, verifications, and any other exhibits we authored.

As required in the stipulation, we will use best efforts to file our initial direct testimony within 14 days of AIC filing its annual petition to open the Rider EE docket.

We have reserved $15,000 of evaluation budget to support this activity in 2024, which includes legal fees.

4.5.6 SAG PARTICIPATION

Since 2008, SAG has provided a venue for utilities and stakeholders to work together to discuss a variety of policy and technical issues and reach consensus on directives from the ICC.[34] In support of AIC's portfolio, Opinion Dynamics is a regular attendee at SAG meetings, and is frequently called upon to present and/or support SAG discussions on a variety of topics. This includes, but is not limited to, participation in Large Group SAG meetings, as well as participation in any SAG working groups and activities in support of AIC's portfolio, including but not limited to the SAG Market Transformation Savings Working Group, the SAG Non-Energy Impacts Working Group, the SAG Reporting Working Group, and the 2024 SAG Portfolio Planning Process. Opinion Dynamics also presents evaluation materials as part of a

[33]

[34] Illinois Energy Efficiency Stakeholder Advisory Group: Process Guidance – 2024 Update. https://www.ilsag.info/wp-content/uploads/SAG_Process_Guidance_2024_Update_REDLINE-1-11-2024.docx

number of annual SAG activities, including the annual NTG update process, which will occur in September 2024 for the 2025 program year, and the annual evaluation planning presentation process, which will occur in December 2024 for the 2025 program year.

SAG participation is dependent on expressed needs and can vary significantly from year to year; we have reserved $95,000 of evaluation budget to support this activity in 2024 based on our best estimates of costs associated with participation in and engagement with the discussions listed above.

4.5.7 NTG WORKING GROUP PARTICIPATION AND FACILITATION

As part of numerous ICC orders in 2014, the ICC directed Illinois utilities to require their evaluators to collaborate with other Illinois evaluators and the SAG in the development of consensus statewide NTG methodologies to be included as an attachment to the IL-TRM. The ICC indicated that the independent evaluators should take the lead in this effort.[35] This collaboration was formalized as the Illinois NTG Working Group; the Opinion Dynamics team has participated in (and frequently facilitated) this group since its inception.

In the recent past, Guidehouse, the independent evaluator for ComEd, Nicor Gas, and Peoples Gas/North Shore Gas, has served as the facilitating entity for the NTG Working Group. For the 2023-2024 NTG Working Group cycle, supporting updates to IL-TRM Attachment A for IL-TRM V13.0, Opinion Dynamics will be resuming the role of lead facilitator for the NTG Working Group, which includes coordinating requests for updates, organizing and facilitating methodological discussions, and drafting of a redline revision to Attachment A in time for the final IL-TRM V13.0 in September 2024.

We have reserved $100,000 of evaluation budget to support this activity in 2024. Note that this budget allocation anticipates that Opinion Dynamics will continue to facilitate the NTG Working Group during the IL-TRM V14.0 cycle and allows for budget to support NTG Working Group activities in fall 2024. Should the facilitator of the NTG Working Group change for the IL-TRM V14.0 cycle, we expect that this budget allocation will not be needed in its entirety.

4.6 CROSS-CUTTING EVALUATION RESEARCH

As part of our 2024 evaluation plan, we also plan to complete a number of specific evaluation research studies activities that are not specific to any planned program evaluations. Planned activities for 2024 are detailed below.

4.6.1 NON-PARTICIPATING CONTRACTOR RESEARCH

AIC continues to work to expand its Program Ally network in key underserved regions and build technical knowledge and capacity in several areas. However, the results of several recent evaluation studies, as well as discussions with AIC and implementation staff, have highlighted a number of specific challenges to doing so. For example, the 2021 Empower Communities Study identified significant geographic coverage gaps in areas like Southern Illinois and East St. Louis;[36] the 2022 Mobile Home Study identified a lack of Program Allies with the technical knowledge for working on mobile homes as a key barrier to expansion into new regions;[37] and the 2022 Multifamily Process Evaluation found that limited numbers of Program Allies with the staff capacity and/or willingness to take on large projects are a critical growth

[35] Illinois Statewide Technical Reference Manual V12.0 – Attachment A: Illinois Statewide Net-to-Gross Methodologies. https://www.ilsag.info/wp-content/uploads/IL-TRM_Effective_010124_v12.0_Vol_4_X-Cutting_Measures_and_Attach_09222023_FINAL.pdf

[36] Ameren Illinois Company Empower Communities Study Final Report. July 11, 2022. https://www.ilsag.info/wp-content/uploads/AIC-Empower-Communities-Study-Final-Report-FINAL-2022-07-11.pdf

[37] AIC Mobile Homes Study Community Mapping Results. May 8, 2023. https://www.ilsag.info/wp-content/uploads/2022-AIC-MH-Study-Community-Mapping-Results-FINAL-2023-05-08.pdf

barrier.[38] A robust and expansive Program Ally network is essential to building the infrastructure to expand AIC's services into new and underserved regions and growing specific offerings (e.g., MHAS). Further, efforts to grow the Program Ally network may create significant opportunities to support MDI goals by recruiting new, diverse businesses who haven't yet worked with AIC.

EVALUATION APPROACH

Based on this need, we have scoped a study to characterize what types of services non-participating contractors offer, how those services align with AIC's needs, and if there are any critical market gaps regarding technical knowledge or ability to provide certain kinds of services. Beyond the characterization of their businesses, we will also examine reasons why contractors are not part of the Program Ally network, how AIC might support them in becoming Allies, and awareness and interest in offerings specific to new and diverse vendors (e.g., the MDI's Diverse Program Ally Incubator). This study will focus on both Residential and Business Program priorities, gathering perspectives on these topics from AIC, its implementation partners, and contractors themselves.

RESEARCH OBJECTIVES

The study will answer the following questions:

- What Program Ally services or technical knowledge does AIC need but currently lacks to expand the reach of the Residential and Business Programs? What regions are the highest priority for Program Ally network expansion?
- What services and technical knowledge do non-participating contractors offer, and how does that align with AIC's needs? Is there evidence of potential gaps in the market, i.e., cases where relatively few contractors surveyed offer the desired services and technical knowledge? If so, how could AIC potentially support capacity building in these areas?
- What are the most common barriers to contractors becoming Program Allies (e.g., awareness, lack of interest, perceived financial risk, resource constraints, lack of qualifications or experience)? Are any barriers particularly challenging for particular regions or new and diverse allies?
- What marketing, education, and outreach (ME&O) efforts have AIC and its partners undertaken to recruit new Program Allies? What are these efforts' critical successes and challenges from AIC and its partners' perspectives? How could ME&O efforts be improved to better target the barriers to participation that contractors experience?
- What support services does AIC offer contractors broadly and specifically for new and diverse (e.g., minority and woman-owned) contractors? How interested are these contractors in the services AIC currently provides, and could the services be improved to make them more attractive?

We will explore these questions through the activities described in this evaluation plan.

EVALUATION TASKS

Table 67 summarizes the evaluation activities planned for the study.

[38] 2022 AIC Multifamily Initiatives Process Evaluation Results. November 1, 2023. https://www.ilsag.info/wp-content/uploads/2022-AIC-Multifamily-Initiative-Process-Evaluation-Findings-Memo-FINAL-2023-11-01.pdf

Table 67. Summary of Non-Participating Contractor Study Evaluation Activities

Activity	Impact	Process	Market	Details
AIC and Implementation Partner Interviews			✓	Up to ten interviews with AIC and implementation staff across the Residential and Business Programs to fully understand Program Ally network growth priorities, understand ME&O efforts to date and their performance, according to staff, and understand MDI offerings available to support new and diverse Program Allies. Develop consensus on the topics and regions to explore in the contractor survey.
Data and Materials Review			✓	Review tracking databases and materials associated with non-participating contractor ME&O and Program Ally support services. If possible, leverage existing data to construct a survey sample; otherwise, identify and procure additional market data to support sampling. Produce a memo documenting the survey sampling approach, priority regions, target services, and technical knowledge.
Contractor Survey			✓	Phone survey with non-participating contractors in priority regions, covering services, technical knowledge, barriers to becoming a Program Ally, and interest in Program Ally support services.
Analysis and Reporting			✓	Summarize results, key findings, and recommendations in a final report and PowerPoint presentation.

We describe each of these activities in detail below.

TASK 1. AIC AND IMPLEMENTATION PARTNER INTERVIEWS

The evaluation team will conduct up to ten exploratory (i.e., loosely structured, discussion-oriented) interviews with AIC and implementation staff who manage the Program Ally network, initiatives where Program Ally recruitment is a priority, or workforce development offerings related to Program Allies. We will work with AIC to determine the complete list of interviewees but anticipate interviewing multiple organizations, including AIC, Leidos, Walker-Miller, SEEL LLC, and more. These interviews will focus on better understanding AIC's Program Ally network growth priorities and solidifying the survey's focus. We will also seek to fully understand ME&O efforts to recruit new Allies in the last two years (roughly from 2022 to mid-2024) and the offerings and opportunities to build new and diverse Program Ally capacity to work with AIC. Finally, we will work with AIC to identify existing data sources, such as contractor recruitment lists, that may support survey sampling.

Deliverable: Completed interviews *Deliverable Date:* April 2024

TASK 2. DATA AND MATERIALS REVIEW

The evaluation team will conduct a comprehensive review of all available materials and tracking data associated with contractor recruitment. Requests may include ME&O plans and materials, recruitment lists, and documentation of Program Ally support services (e.g., the MDI's Diverse Program Ally Incubator). We will use this review as context for the analysis and to determine whether existing data are sufficient for sampling or must be procured elsewhere. Following review, we will develop a brief memo documenting the detailed research topics, priority regions (and how they will be defined), data sources, and sampling strategy for the contractor survey.

Deliverable: Data requests *Deliverable Date:* April 2024

Deliverable: Survey approach memo *Deliverable Date:* May 2024

TASK 3. CONTRACTOR SURVEY

We will conduct phone surveys with non-participating contractors in priority regions for Program Ally recruitment. The survey will focus on characterizing the landscape of contractor businesses, including the types of markets they serve (e.g., residential, small businesses, large commercial, multifamily), expertise in priority technical areas and services

(e.g., mobile homes, smart home technologies, weatherization); and key firmographics (e.g., company size, years of operation, ownership demographics). We will also explore why contractors are currently not Program Allies (e.g., lack of awareness or interest, perceived financial risk, resource constraints, lack of qualifications or experience) and gauge the attractiveness of the Program Ally support services AIC offers.

Our sampling and outreach strategy and the target number of completions will depend on the data available and contractor populations in priority regions. If existing data that AIC already tracks is insufficient, we will acquire data from online sources, purchasing the data from third-party sources (such as Dun & Bradstreet) if necessary. We may also explore additional avenues, such as business-to-business panels. We expect to encounter relatively low response rates with this population, which creates relatively high direct and labor costs compared to other survey efforts (see Table 68). As such, we will limit the survey length to 15-20 minutes and offer contractors a $100 incentive for their time.

Deliverable: Data collection instrument *Deliverable Date:* June 2024

TASK 4. REPORTING

We will summarize the results and recommendations from this research in a final report. We will also develop a summary PowerPoint presentation and work with AIC on the appropriate timing and venue for sharing results.

Deliverable: Draft report *Deliverable Date:* September 2024

Deliverable: Final report and PowerPoint presentation *Deliverable Date:* October 2024

EVALUATION BUDGET AND TIMELINE

Table 68 summarizes the timing and budget associated with each evaluation activity.

Table 68. Non-Participating Contractor Study Schedule and Budget

Task	Evaluation Activity	Deliverable Date	Budget
1	AIC and Implementation Partner Interviews	April 2024	$10,900
2	Data and Materials Review	April and May 2024	$13,200
3	Contractor Survey	June 2024	$91,400
4	Reporting	September and October 2024	$21,000
Total Budget			**$136,500**

4.6.2 HEAT PUMP MARKET RESEARCH

As part of CEJA, Illinois electric utilities were explicitly authorized to begin electrifying space heating and other end uses through their energy efficiency portfolios. This statutory change, coupled with increased market focus on electrification, has led heat pumps (specifically ducted and ductless air source heat pumps) to become a priority measure for the AIC portfolio in 2024 and beyond.

To support AIC's increased focus on heat pumps and transition to a new residential HVAC program model, in 2021 Opinion Dynamics completed HVAC market characterization research that has since been used to support a number of program evaluation questions.[39] AIC has expressed interest in further research to capture rapid changes in the market and to address a number of open questions with respect to implementation of heat pumps through the AIC portfolio. As

[39] Opinion Dynamics, *Ameren Illinois' Market Effects Pilot – HVAC Market Characterization Report* (September 15, 2021). https://www.ilsag.info/wp-content/uploads/AIC-Market-Effects-2021-HVAC-Market-Characterization-Report-FINAL-2021-09-15.pdf

part of our 2024 evaluation, we will conduct market research to follow up on previous research and address topics of interest.

EVALUATION APPROACH

Opinion Dynamics and AIC have discussed a wide range of heat pump related research topics, including (but not limited to):

- Customer and market approach to fuel switching/electrification of heating
- Customer and market rate of early replacement of functional equipment
- Market practices with respect to heat pump control strategies, especially with respect to hybrid system implementations with backup heat sources
- Market practices with respect to system sizing
- Effects of the transition of the federal standards for heat pump efficiency from SEER/HSPF to SEER2/HSPF2
- Costs associated with heat pump installations and electrification

These topics are all worthy of exploration, but clear definition of the research questions to be explored is a critical component of this type of research. As part of Task 1 of this study, detailed below, we will hold meetings as necessary to define and agree upon final research questions to be explored through our research.

Broadly, we expect to research the defined research questions through market research activities, primarily leveraging semi-structured interviews with market actors, likely including manufacturers, distributors, and installers of heat pumps, as well as potentially including other actors such as industry organizations, federal and state agencies, and research organizations.

EVALUATION TASKS

We describe the tasks to be completed as part of this research below. All tasks beyond Task 1 are subject to refinement as part of the project kickoff meeting.

TASK I. PROJECT KICKOFF MEETING

Opinion Dynamics will conduct a project kickoff meeting with AIC and key members of the implementation team. The kickoff meeting will allow the teams to refine and agree upon the specific research questions to be explored as part of this study, as well as provide an opportunity to refine the research approach outlined in this proposal. The key objectives of the kickoff meeting will be to develop and refine the research objectives for the study; discuss the research approach, with a particular focus on the market actors to be interviewed and the sampling strategies needed to ensure a robust response, and confirmation of the project schedule. Before the kickoff meeting, Opinion Dynamics will deliver a preliminary list of research questions for consideration and refinement. Following the kickoff meeting, Opinion Dynamics will deliver a final research plan that memorializes the final research questions and approach to the study.

Deliverable: Preliminary list of research questions — *Deliverable Date:* April 2024

Deliverable: Kickoff meeting and notes from kickoff meeting — *Deliverable Date:* April 2024

Deliverable: Final research plan — *Deliverable Date:* May 2024

TASK 2. REVIEW OF EXISTING DATA

Ensuring the evaluation team has a complete understanding of the existing information and data sources relevant to the HVAC market in AIC service territory will be essential to ensuring this study is able to be of highest value and provides necessary results. As part of this research, we will review available materials, including those used in the 2021 study and ongoing market effects research. The study report will include a literature review of existing information available in HVAC market assessments, building stock assessments, emerging technology briefs, and evaluation reports.

Deliverable: Analysis in study report *Deliverable Date:* June 2024

TASK 3. MARKET ACTOR INTERVIEWS

Given our current understanding of the research questions AIC would like us to focus on for this study, we expect that semi-structured interviews with market actors will be the most appropriate way to collect the desired information.

We will work with AIC and the implementation team to develop a recruiting list of market actors for this study, likely including manufacturers, distributors, and installers of heat pumps, as well as potentially including other actors such as industry organizations, federal and state agencies, and research organizations. Where overlap may occur, we will closely coordinate this activity with contractor interviews currently planned for the 2024 evaluation of the Single Family Market Rate Initiative's Midstream HVAC Channel.

We will determine final targets as part of our kickoff meeting, but for budgeting purposes, we have assumed that we will target completing up to 30 in-depth interviews and provide an incentive of $100 or greater.

Deliverable: Draft and final interview guides *Deliverable Date:* July 2024

TASK 4. REPORTING

We will summarize the results of our research in two forms. First, we will conduct a PowerPoint presentation of our draft findings and our initial analysis and synthesis around the key research questions. Building off that presentation, we will finalize our results in a draft report provided to AIC, ICC Staff, and SAG for review. We will address any comments and questions on the draft report and provide a final report to memorialize the results.

Deliverable: Draft and final study report *Deliverable Date:* September 2024

EVALUATION BUDGET AND TIMELINE

Table 69 summarizes the timing and budget associated with each evaluation activity.

Table 69. Heat Pump Market Research Schedule and Budget

Task	Evaluation Activity	Deliverable Date	Budget
1	Kickoff Meeting	April and May 2024	$7,000
2	Review of Existing Data	Ongoing	$9,000
3	Market Actor Interviews	July 2024	$87,000
4	Reporting	September 2024	$32,000
Total Budget			**$135,000**

4.6.3 SOCIETAL NON-ENERGY IMPACTS RESEARCH

Prior to 2018, Illinois utilities historically excluded the majority of NEIs from cost-effectiveness testing. The passage of FEJA, which directly called for the inclusion of certain NEIs in EE program cost-effectiveness testing, led to ongoing discussion in Illinois around the need to better understand and monetize NEIs to align with FEJA's requirements. To help AIC meet these statewide goals, as well as the stated goals and objectives of the Illinois Stakeholder Advisory Group NEI Working Group (SAG NEI Working Group), Opinion Dynamics began an ongoing assessment of NEIs associated with the AIC energy efficiency portfolio.

As part of this ongoing assessment, in 2021 Opinion Dynamics completed an analysis of the reduction of air pollution emissions and resulting health benefits from AIC's portfolio that accrue to society at large.[40] Our analysis included the development of per-kWh and per-therm adders representing the health benefits associated with the AIC portfolio that AIC now uses in its cost-effectiveness testing. Our report also recommended that the study be refreshed in the future given its significant impact on the cost-effectiveness of the AIC portfolio. In 2024, we will refresh this analysis to use current data that better represents the current AIC portfolio, current mix of grid generation resources, and updates to the modeling tools.

EVALUATION APPROACH

We will conduct the analysis following the model of the 2021 study, using U.S. Environmental Protection Agency (EPA) tools for modeling regional air quality emissions reductions (AVoided Emissions and geneRation Tool, or "AVERT") and for modeling the economic value of avoided adverse health outcomes due to air quality (CO-Benefits Risk Assessment Health Impacts Screening and Mapping Tool, or "COBRA"). AVERT and COBRA are peer-reviewed tools based on high-quality environmental, epidemiological, and economic functions and are commonly used in state energy efficiency analyses. We will use AVERT to quantify the avoided emissions due to AIC's energy efficiency portfolio. Using COBRA, we will correlate the avoided emissions from AVERT with improved air quality, estimate the avoided annual number of adverse health effects such as respiratory symptoms, restricted activity, heart attacks, and mortality, and monetize these avoided adverse health effects on an annual basis. The 2024 study will incorporate updates made to AVERT and COBRA since the 2021 study, as well as further refine our prospective estimates of emissions reductions that rely on future assumptions about the baseline grid generation mix.

RESEARCH OBJECTIVES

The study will answer the following questions:

- Estimate the change in electric generation and emissions of primary fine particulate matter ($PM_{2.5}$), sulfur dioxide (SO_2), nitrous oxides (NO_x), ammonia (NH_3), and volatile organic compounds (VOCs) resulting from AIC's 2023 electric portfolio
- Estimate the reductions in emissions of primary $PM_{2.5}$, SO_2, NO_x, ammonia (NH_3), and volatile organic compounds (VOCs) associated with decreased natural gas combustion resulting from AIC's 2023 gas portfolio
- Estimate the health benefits associated with decreased concentrations of $PM_{2.5}$, SO_2, NO_x, NH_3, and VOCs
- Monetize the health benefits associated with decreased concentrations of $PM_{2.5}$, SO_2, NO_x, NH_3, and VOCs to update AIC's NEI cost-effectiveness adders

We will explore these questions through the activities described in this evaluation plan.

[40] Ameren Illinois Company 2018 Societal Health Non-Energy Impacts Report. April 9, 2021. https://www.ilsag.info/wp-content/uploads/AIC-Societal-NEI-Results-REVISED-FINAL-2021-04-09.pdf

EVALUATION TASKS

Table 70 summarizes the evaluation activities planned for the study.

Table 70. Summary of Societal NEI Research Activities

Activity	Details
Estimate Energy Savings	Develop lifetime savings estimates associated with the 2023 AIC portfolio in a form necessary for this study; savings estimates will be developed based on inputs used in cost-effectiveness testing
Estimate Emissions Impacts	Use AVERT to estimate the emissions reductions associated with the 2023 AIC electric portfolio; use EPA natural gas emission factors to estimate the emissions reductions associated with the 2023 AIC natural gas portfolio
Estimate Changes in Air Quality and Monetize Health Impacts	Use COBRA to estimate changes in ambient air quality, public health impacts, and monetized health benefits resulting from emissions reductions of primary PM2.5, SO2, NOX, NH3, and VOCs
Reporting	Develop benefit factors at a per-kWh and per-therm level based on COBRA results; summarize results, key findings, and conclusions in a report

We describe each of these activities in detail below.

TASK I. ESTIMATE ENERGY SAVINGS

Using Opinion Dynamics' evaluation results from the 2023 AIC portfolio, we will develop energy savings input estimates for this study. Estimates will represent the lifetime savings associated with the 2023 AIC portfolio and reflect changes in savings over time resulting from baseline shifts, expiration of measure lives, and degradation of savings where relevant.

Deliverable: Analysis in draft report *Deliverable Date:* June 2024

TASK 2. ESTIMATE EMISSIONS IMPACTS

Using the energy savings inputs from the 2023 AIC portfolio, we will estimate the corresponding emissions reductions associated with those energy savings. To estimate the emissions reductions from the AIC electric EE portfolio, we will utilize AVERT, a publicly available tool designed by the U.S. EPA to help policy makers and analysts quantify the emissions impacts of EE and renewable energy programs. AVERT performs statistical analysis on historical hourly emissions and generation data to estimate the impact of decreased demand for electricity on the generation of individual fossil fuel electric generation units (EGUs) and the subsequent emissions of SO2, NOX, and PM2.5. AVERT probabilistically estimates the output of individual electric generating units (EGUs) and uses this statistical information to predict how they are likely to respond to load impacts.

The EPA does not recommend utilizing AVERT to estimate emissions reductions more than 5 years in the future because AVERT relies on historical data and does not account for future changes to the grid. We will explore a variety of approaches to estimate emissions reductions beyond 2027, including both the relatively simple approach we employed in the 2021 study that assumes a linear decrease in emissions factors over time, as well as a more advanced approach using long-run marginal emission rates from the National Renewable Energy Lab (NREL)'s Cambium dataset. We will choose a final approach and report electric emissions reductions using that approach.

AVERT is limited to estimating changes in emissions due to reductions in electric consumption. To estimate emissions reductions resulting from program-induced fossil fuel savings, we will explore a variety of approaches, beginning with the approach used in the 2021 study of applying the EPA's recommended natural gas emissions factors. We will choose a final approach and report fossil fuel emissions reductions using that approach.

Deliverable: Analysis in draft report *Deliverable Date:* June 2024

TASK 3. ESTIMATE CHANGES IN AIR QUALITY AND MONETIZE HEALTH IMPACTS

Using the emissions reductions estimated in Task 2, we will then estimate changes in ambient air quality, public health impacts, and monetized health benefits associated with those emissions reductions. To complete this analysis, we will use the EPA's COBRA screening tool.

COBRA uses a reduced form air quality model[41] to estimate how changes in emissions will affect ambient air quality concentrations in counties throughout the U.S. Next, COBRA uses a series of concentration-response functions to calculate how the change in air quality affects health outcomes, and finally, COBRA calculates the value of the avoided health damages valuation functions from the economic literature.

We will include the monetized health benefits associated with the emissions reductions, as estimated by COBRA, in our report.

Deliverable: Analysis in draft report *Deliverable Date:* June 2024

TASK 4. REPORTING

We will develop a draft report summarizing our findings and share with AIC, ICC Staff, and the SAG NEI Working Group for review. In our report, we will develop benefit factors expressing monetized health benefits in a per-kWh and per-therm form to support AIC cost-effectiveness testing. After responding to SAIC, ICC Staff, and SAG feedback, we will deliver a final report that memorializes our estimated benefit factors for use in future AIC cost-effectiveness testing.

Deliverable: Draft report *Deliverable Date:* June 2024

Deliverable: Draft report *Deliverable Date:* July 2024

EVALUATION BUDGET

We have reserved $50,000 of evaluation budget to support the Societal Non-Energy Impacts Research update.

4.6.4 ECONOMIC AND EMPLOYMENT IMPACT MODEL UPDATE

As detailed in Section 4.5.2, Illinois statute requires Illinois program administrators to report estimates of job and macroeconomic impacts from their energy efficiency portfolios annually at the conclusion of each year's annual impact reporting cycle (April 30 following the year of program implementation). Opinion Dynamics currently completes this analysis annually and includes the results in the annual Integrated Impact Evaluation Report. As agreed upon with SAG, we currently use a static input-output model that is updated once per plan cycle to reflect changes in the underlying economy. Our current model was last updated in Plan 5, and therefore in 2024, we will purchase and analyze economic data that will be used to update the multipliers for our evaluation approach.

[41] COBRA relies on the Phase II Source Receptor (S-R) Matrix, a simplified version of the Climatological Regional Dispersion Model (CRDM), to conduct air quality modeling.

We have reserved $15,000 of evaluation budget to support this study as part of the 2024 evaluation, the majority of which will be spent on direct costs associated with the purchase of underlying data.

4.6.5 COMPRESSED AIR EUL RESEARCH

In partnership with the evaluation team for ComEd, we are currently conducting a statewide IL-TRM research study focused on updating the effective useful life (EUL) for compressed air leak repairs. [42] The study has been in progress since Q4 2021 and is using a longitudinal approach to examine air leak repair failure rates. We expect results in 2025.

We have reserved $20,000 of evaluation budget to support this study as part of the 2024 evaluation.

4.6.6 ARREARAGE REDUCTION PILOT

CEJA includes statutory language that requires AIC to: "pilot targeting customers with high arrearages, high energy intensity (ratio of energy usage divided by home or unit square footage), or energy assistance programs with energy efficiency offerings, and then track reduction in arrearages as a result of the targeting."[43]

EVALUATION APPROACH

As part of the 2024 evaluation, Opinion Dynamics will conduct a study on AIC's behalf that examines arrearage reduction resulting from AIC's ongoing Income Qualified Initiative efforts (including both single family and multifamily customers).

RESEARCH OBJECTIVES

The overall objective of the study is to determine whether AIC low income programs lead to reductions in arrearages for customers. While this research question is nominally straightforward, based on the evaluation team's experience in researching this topic elsewhere, we recommend assessing a number of metrics that will provide both a direct answer to this question as well as contextual information that will help understand analytical results. As part of the initiation of this study, we will finalize the metrics to be pursued with AIC, but example metrics that we suggest considering for AIC low income program participants as part of this study are:

- Changes in bill amounts
- Changes in amount in arrears
- Odds of receiving a disconnection notice

We will explore these metrics through the activities described in this evaluation plan.

EVALUATION TASKS

Table 71 summarizes the evaluation activities planned for the study.

[42] Joint ComEd-Ameren Illinois Compressed Air Leak Repair Effective Useful Life Research Plan. November 2021.
[43] 220 ILCS 5/8-103B(c)

Table 71. Summary of Arrearage Reduction Pilot Research Activities

Activity	Details
Project Kickoff and Staff Interview	Finalize metrics for investigation, develop understanding of data for analysis, and understand key billing and arrearage processes
Data Request, Cleaning, and Preparation	Submit data request; clean and prepare data for analysis
Data Analysis	Analyze data using statistical models to estimate metrics; if possible, use comparison group and methodology to control for known sources of variation
Reporting	Develop benefit factors at a per-kWh and per-therm level based on COBRA results; summarize results, key findings, and conclusions in a report

We describe each of these activities in detail below.

TASK 1. PROJECT KICKOFF AND STAFF INTERVIEW

The evaluation team will conduct a project kickoff meeting with AIC staff in May 2024. In this meeting, we will discuss and finalize potential metrics for investigation, review the data streams to be used in the analysis, and gain an understanding of key billing and arrearage processes in order to inform our analysis and interpretation of the data.

Deliverable: Finalized research objectives *Deliverable Date:* May 2024

TASK 2. DATA REQUEST, CLEANING, AND PREPARATION

Following the project kickoff meeting, we will submit a data request to AIC for the key data streams needed for the analysis. We expect that in addition to program participation data that we already possess, this may include additional customer data (e.g. account active and inactive dates), monthly billing data in kWh/therms and dollars, arrearage data, and disconnection records.

We will review data for completeness and reasonableness and clean it prior to use in the analysis. Only participants with sufficient billing data prior to and following their participation in AIC programs will be included in our analysis.

Deliverable: Data request *Deliverable Date:* June 2024

TASK 3. DATA ANALYSIS

After cleaning data, we will estimate the metrics agreed upon in Task 1. If possible, we will develop a comparison group of similar customers who did not receive low income program treatment at the same time as the population of interest and estimate metrics using models that capture the effect of time-invariant household-specific characteristics and control for other known sources of variation (such as weather and other seasonal effects on energy consumption and energy bills).

Deliverable: Analysis to be provided in draft memo *Deliverable Date:* September 2024

TASK 4. REPORTING

We will summarize the results from this research in a draft memo and share the findings with AIC and ICC Staff for review and comment. We will incorporate any comments from AIC and revise as necessary before delivering a final memo that can be shared publicly to demonstrate compliance with 220 ILCS 5/8-103B(c).

Deliverable: Draft memo *Deliverable Date:* September 2024

Deliverable: Final memo *Deliverable Date:* October 2024

EVALUATION BUDGET

We have reserved $60,000 of evaluation budget to support the Arrearage Reduction Pilot research study.

4.7 QUALITY ASSURANCE AND CONTROL

Per our contract, the team must hire a separate entity for quality assurance/quality control (QA/QC) review and work collaboratively with this entity to ensure the quality of our evaluation plans, analysis, and reporting. Since PY4, the team has worked with Dr. Richard Ridge, who has a long history in energy efficiency evaluation. In recent years, Dr. Ridge has used his expertise to help write evaluation protocols and oversee other firms in their evaluation efforts, as well as continuing to perform evaluations across the country. From 2005 through 2012, Dr. Ridge was a consultant to the California Public Utilities Commission (CPUC) evaluation staff, where he worked with them to understand evaluation needs, review contractor plans, and participate in many aspects of a multi-million-dollar evaluation effort. From 2008 through 2016, he provided similar support to the New York State Department of Public Service. From 2019 through 2022, he assisted in the evaluation of multiple programs implemented by the California IOUs and third parties and advised the CPUC.

As part of the 2024 evaluation efforts, Dr. Ridge will continue to (1) discuss portfolio evaluation plans with the evaluation team, providing advice as needed; (2) participate in ongoing sampling and evaluation design efforts as requested (including the Illinois Net-to-Gross Working Group); (3) review draft evaluation reports to ensure quality and accuracy; and (4) provide the ICC with a report on the efforts in which he was involved. Dr. Ridge's report will be provided to AIC and ICC Staff concurrently on or before March 25, 2025.

4.8 PORTFOLIO EVALUATION REPORTING

In addition to initiative-specific activities, the evaluation team will meet core compliance requirements in 2025 by providing five reports summarizing the performance of the 2024 portfolio: the annual Residential, Business, Voltage Optimization, and Integrated Impact Evaluation Reports to serve as the point of reference for AIC portfolio savings achievement, and the annual portfolio Cost-Effectiveness Report to verify whether the AIC portfolio met Illinois requirements for cost-effectiveness. Drafts of the annual Impact Evaluation Reports will be provided by March 15, 2025,[44] with reports to be finalized by April 30, 2025. The draft Cost-Effectiveness Report will be provided as early as feasible, with the final report to be delivered by July 1, 2025 utilizing best efforts. As needed, annual evaluation reporting will also include any other analysis not detailed in this evaluation plan required by the Policy Manual.

Supporting these reports, we will provide an annual workbook each year that compiles all CPAS achieved by the AIC portfolio and calculates AIC's achievements of its energy savings goals. We will also provide cost-effectiveness results in workbook format.

4.9 2024 EVALUATION BUDGET SUMMARY

The following table outlines the estimated budget to execute the detailed 2024 evaluation plans presented above, as well as budget allocations for other overarching portfolio activities.

[44] Or best efforts in alignment with the Illinois EE Policy Manual.

Table 72. 2024 AIC Evaluation Budget

Evaluation Activity		Budget
Program-Specific Activities		
Market Rate & Kits	Retail Products	$131,300
	Market Rate Single Family - Midstream HVAC	$110,300
	Market Rate Single Family - Home Efficiency	$100,100
	Kits Initiatives (School Kits, High School Innovation, IQ Community Kits)	$45,700
Income Qualified & Multifamily	IQ Single Family Whole Home	$249,200
	IQ Smart Savers	$70,500
	IQ Mobile Homes & Air Sealing	$75,300
	IQ Heathier Homes	$45,900
	IQ Accessibility Pilot	$41,000
	Multifamily Initiatives	$171,700
Business Program	Standard	$121,200
	Custom	$456,300
	Small Business	$188,000
	Midstream	$164,800
	Retro-Commissioning - Traditional	$52,000
	Virtual Commissioning	$95,600
	Streetlighting	$10,000
Pilots & Emerging Areas	LLLC	$135,000
	VSEM	$32,000
	Energy Analyzer	$50,000
Total Program-Specific Activities		***$2,345,900***
Portfolio-Level Cross-Cutting Activities		
Compliance and Stakeholder Engagement Activities		$410,000
Cross-Cutting Evaluation Research		$416,500
Quality Assurance and Control		$30,000
Portfolio Evaluation Reporting		$50,000
Other Non-Program Activities (Project Management, Evaluation Planning, Program Design Support, etc.)		$429,500
Total Portfolio-Level Cross-Cutting Activities		***$1,336,000***
Contingency		$6,573
Total		**$3,688,473**

Opinion **Dynamics**

CONTACT:

Zach Ross
Director
zross@opiniondynamics.com

BOSTON
PORTLAND
SAN DIEGO
SAN FRANCISCO