



Opinion **Dynamics**

Boston | Headquarters

617 492 1400 tel
617 497 7944 fax
800 966 1254 toll free

1000 Winter St
Waltham, MA 02451



2018 Evaluation Plan

Ameren Illinois Company Energy Efficiency Programs –
Non-Energy Impacts Evaluation Plan

Final

October 5, 2018



Table of Contents

- 1. Non-Energy Impacts Research 1
 - 1.1 Introduction..... 1
 - 1.2 Evaluation Approach 2
 - 1.2.1 Research Objectives 2
 - 1.3 Evaluation Tasks..... 4
 - 1.4 Evaluation Budget and Timeline..... 6

Table of Tables

Table 1. Summary of Cross-Cutting NEI Evaluation Activities for 2018.....	4
Table 2. NEI Evaluation Schedule and Budget.....	6

1. Non-Energy Impacts Research

1.1 Introduction

Illinois stakeholders have expressed an interest in better understanding the non-energy impacts (NEI) of Ameren Illinois' 2018-2021 portfolios. NEIs are the impacts, both positive and negative, that energy efficiency programs produce in addition to energy savings and demand reduction. The energy efficiency industry recognizes three types of NEIs:

- **Utility:** Outcomes for the utility sponsoring the energy efficiency program. Positive impacts commonly focus on reduced (avoided) utility administrative costs due to customers' program participation (e.g., reduced arrearages, improved services).
- **Participant:** Ancillary outcomes that participants experience due to making program upgrades at their home or business. Positive impacts include increased occupant health, safety, and comfort, reduced operations and maintenance costs, and others. Negative impacts include increased operations and maintenance costs, negative perceptions about aesthetics, noise, or other features of the upgrade, and others.
- **Societal:** Changes in the general population's welfare due to the economic, environmental, health and safety, and distribution system outcomes that spill over from program upgrades. These types of NEIs can be captured at a portfolio-wide level, given their societal scale. Net job creation (which captures both positive and negative changes in spending across an economy)¹ and changes in emissions are examples of societal impacts.

Throughout the 2018-2021 evaluation cycle, the Opinion Dynamics team will conduct research around NEIs associated with AIC's programs. The IL-TRM currently accounts for some NEIs (water savings and some operation and maintenance costs). In addition, the Future Energy Jobs Act (FEJA) instructs Illinois utilities to include greenhouse gas (GHG) emissions reductions in their cost-effectiveness calculations. We plan to first explore NEIs associated with the Income Qualified, Public Housing, and Multifamily initiatives as we recognize that these initiatives provide services to customers who may benefit from these programs to a degree not currently captured in recent evaluations. We will support quantitative assessments by developing a short set of NEI screening questions to be applied as part of Income Qualified and Multifamily participant surveys fielded in early years of this cycle. In addition, we will explore the degree to which NEIs may exist for all of AIC's other initiatives through literature review and program analysis. Based on those findings, we will develop plans for additional research to support the quantification of NEIs in 2019-2021.

This work plan outlines the tasks Opinion Dynamics will complete to establish an inaugural NEI assessment framework for the AIC 2018-2021 portfolio. Notably, in 2018, we plan to:

- **Develop a statewide approach to NEI assessment through statewide coordination.** We will develop the framework in coordination with the NEI evaluations underway for the other Illinois utilities. We will also support development of a rigorous and defensible Illinois-wide methodology, balancing a need for consistency across utilities with the need to accommodate unique evaluation needs of different

¹ The Ameren Illinois evaluation team outlined a general approach for estimating job impacts of the 2018 portfolio as part of its 2018 evaluation plan.

jurisdictions (e.g., demographics, weather, housing stock, fuel mix), and program portfolios. We have already begun conversations with other Illinois evaluators and plan to continue them throughout the cycle. We also plan to discuss NEIs with the SAG to ensure a consistent understanding outside of program evaluation teams on how NEIs will be researched.

- **Develop a framework that lays the groundwork for future years.** Because AIC is assessing NEIs for the first time during its 2018-2021 portfolio, our first step is to develop a portfolio-wide NEI evaluation framework. As part of this, we will summarize current NEI evaluation best-practices, including methods used in other Illinois evaluations and from key studies across the country. Drawing on those findings, we will recommend a list of priority NEIs. We plan to prioritize NEIs that: (1) have a defensible link to program activity, (2) for which established evaluation methodologies exist, and (3) meet other criteria to be determined as part of our 2018 evaluation. We anticipate sharing our priority NEI recommendations at the end of the 2018 evaluation and soliciting feedback from AIC, ICC staff, and stakeholders.
- **Conduct an exploratory assessment of high-priority NEIs for select programs.** NEIs are relevant to initiatives in both business and residential channels, but Illinois evaluators are currently prioritizing NEIs for income qualified (single- and multi-family) and market rate multifamily programs. At a minimum, we expect to use 2018 evaluation surveys with AIC program participants to explore pre-upgrade health and safety conditions at recently-upgraded single- and multi-family properties, and to explore pre-upgrade vacancy and turnover rates at multi-family properties. We are taking this approach for 2018 because the evaluation surveys follow too soon after program interventions to provide enough time for participants to realize changes in these key NEIs.² However, we expect to use the data gathered through the 2018 surveys as a reference point for the future, expanded, NEI assessments for these programs/initiatives based on the framework developed through the working group process.
- **Use results of initial assessments to develop a portfolio-wide research plan. We will use 2018 assessments to detail appropriate next steps for NEI assessment for subsequent years in the cycle.** We will conclude the 2018 research with a synthesis of NEI findings from the 2018 evaluation and recommend next steps for the remainder of the 2018-2021 program cycle, including how and when to assess impacts for additional NEIs and initiatives not examined in 2018. For example, based on stakeholder feedback on this plan, we expect to prioritize research on utility impacts in 2019 (including arrears and others). NEI research will comprise an important part of the 2018-2021 evaluation cycle, as described in the 2018-2021 Multiyear Evaluation Plan.

1.2 Evaluation Approach

1.2.1 Research Objectives

The evaluation team will explore a number of process-related research questions as part of the 2018 evaluation:

² The timing of 2018 evaluation surveys is based on capturing data on the participant experience and program decision-making for process and impact evaluation purposes.

1. Which AIC 2018-2021 programs and initiatives are likely to produce NEIs? Which NEIs might result from each initiative? How do initiative activities (e.g., efficiency upgrades) produce these NEIs?
2. Which NEIs can be qualitatively assessed for initiatives in the AIC portfolio? Which can be quantified? To inform future cost-effectiveness testing, which NEIs could be monetized, and how (e.g., primary vs. secondary research)?
3. How applicable are available NEI assessment methods and researched values to the AIC service territory, including those put forth by other Illinois evaluators? What adjustments may be needed to reflect the AIC context?
4. Which NEIs are most suitable for an initial quantitative assessment?
5. What types of survey data are needed to quantify key participant NEIs for AIC's residential initiatives? What were pre-program conditions at properties upgraded through AIC's 2018 residential initiatives?
6. What data and information are needed to support future NEI assessments?

1.3 Evaluation Tasks

Table 1 summarizes the 2018 NEI assessment activities.

Table 1. Summary of Cross-Cutting NEI Evaluation Activities for 2018

Activity	Details
Review Literature	Assesses and summarize existing NEI research and explain how the evaluation team plans to leverage it for the AIC 2018-2021 portfolio. Note which NEIs appear to be quantifiable and monetizable.
NEI Map by AIC Initiative	Enumerate specific NEIs expected to stem from each AIC initiative and provide a roadmap for studying key NEIs in the 2018-2021 cycle (documenting the rationale for selecting key NEIs and proposing a timeline for incorporating results into evaluation reporting and planning).
Develop NEI Evaluation Tools	Develop a short battery of participant survey questions that can be used to assess potential for key participant NEIs for the Income Qualified and Multifamily initiatives. To the extent we can leverage data collection activities already planned for these initiatives, we will do so. Develop baseline monetary values of these NEIs in AIC service territory, leveraging existing assumptions used by other Illinois evaluators. Results of this task will help inform the roadmap for in-depth study of NEIs in the remainder of this program cycle, and will be shared with ICC and SAG NEI Working Group members for discussion about statewide approaches.
Ad Hoc Evaluation Support	Consult with ongoing AIC evaluation leads to ensure NEI information is collected consistently across initiatives in 2018 and beyond; develop reporting tools to ensure NEIs are explained and documented consistently across the portfolio.
SAG and Cross-Utility Coordination	Participate as needed in SAG NEI working group and other relevant SAG groups (e.g., Income Qualified Advisory Committee). Coordinate with other Illinois utilities' evaluators to ensure consistent approaches are used.

We describe each activity below in detail.

Task 1. Review Literature

We will review existing NEI assessments and methodologies, with a focus on those already developed or proposed in Illinois and which can be leveraged to support NEI assessment of the AIC 2018-2021 portfolio. We plan to include existing Illinois NEI plans and reports,³ the Future Energy Jobs Act, prior SAG discussions about treatment of NEIs,⁴ key studies across the country, and others. Through this, we will assess the state of practice, catalogue methods available to assess and quantify NEIs, and explain how these methods relate to annual program evaluations. We will include a list of common NEIs by program type and outline which are

³ Navigant (2018). *Quantifying non-energy benefits from ComEd's income eligible programs: Findings and recommendations from secondary research.*

⁴ VEIC (2016). "Documentation of TAC Review of Non-Energy Benefits," Memorandum to Technical Advisory Committee on 02/09/2016.

readily quantifiable and monetizable. We will also note which are already included in the IL-TRM vs. which could be considered for future inclusion, and which are referenced as part of the Future Energy Jobs Act.

We will synthesize results into a summary memo. The memo will help the evaluation team prepare to collaborate with other Illinois evaluators and serves as our point of early feedback with AIC.

Deliverable: Literature Review Findings Memo

Deliverable Date: October 2018

Task 2. NEI Map by AIC Initiative

In this task, we will extend our literature review (Task 1) by mapping NEIs that may arise from AIC's 2018-2021 programs. We will map AIC initiatives (residential and commercial) to NEIs by drawing on information from program implementation plans, program-tracking data, transcripts of program staff interviews, and others. To complete this work efficiently, we plan to leverage NEI-program maps developed in other states (e.g., Massachusetts) and refine them based on unique attributes of AIC's initiatives and service territory. We will also complete a deeper dive into classifying NEIs by benefit magnitude, analytical complexity, and data needs.

The main output will be a matrix showing which AIC programs are expected to produce specific NEIs. We expect to use the matrix to highlight areas prime for the first NEI assessment (e.g., areas not only where NEIs are expected to be relatively large, but also where data exists/can be readily collected to qualitatively assess, quantify, and monetize the benefit). We will also develop a research plan (roadmap) that recommends a prioritized list of NEIs. We will point out the NEIs that, if tracked and quantified, could have the relatively largest effect on AIC programs and their evaluated benefits.

Deliverable: NEI Matrix and Evaluation Roadmap

Deliverable Date: October 2018

Task 3. Develop NEI Evaluation Tools

As a starting point for NEI evaluations, this task is designed to develop data collection tools that assess potential for NEIs from residential initiatives. Note that this task is designed to examine pre-program conditions, and that additional research will be conducted in following years. Based on research reviewed to develop this plan, our initial 2018 work will focus on health/safety benefits from Income Qualified and Multifamily residential programs. Moreover, given that the evaluation team is planning to conduct participant surveys for these two initiatives in Fall 2018, we plan to develop survey questions that can be used in this year's evaluation. As noted above, based on the timing of these surveys relative to program upgrades, we will use this year's evaluation surveys to examine pre-upgrade conditions rather than to explore post-program changes in NEIs.

We will collate survey batteries that other evaluators have successfully used to capture self-reported NEIs (e.g., US DOE Weatherization Assistance Program health benefits survey⁵) and tailor them to the AIC context. We plan to develop a standard set of questions that, when applied consistently across applicable initiatives, facilitates comparisons about NEI baselines throughout the portfolio. Questions will be developed in a manner consistent with existing NEI practice in Illinois, leveraging existing work where our review suggests it is appropriate to do so.

⁵ Oak Ridge National Laboratory (2014). *Health and Household-Related Benefits Attributable to the Weatherization Assistance Program*. Available at: https://weatherization.ornl.gov/Retrospectivepdfs/ORNL_TM-2014_345.pdf

To support progress towards understanding the role NEIs may play in future benefit-cost testing, we will also assess the monetary value of the key NEIs examined in 2018. Specifically, this task will involve collecting and adjusting existing secondary values for a key NEI (e.g., economic value of reduced sick days per participant due to indoor air quality improvements) to reflect economic and social conditions in the AIC service territory (e.g., inflation, cost of living, climate, and others). We will present results of the data collection efforts and monetary values research in a 2018 NEI Evaluation Results Summary (Task 4). Results of this task will be shared with ICC and SAG NEI Working Group members for discussion about statewide approaches.

Deliverable: Participant NEI Survey Questions

Deliverable Date: September 2018

Task 4. Ad Hoc Evaluation Support

This task will provide ad-hoc consulting to ongoing AIC evaluations to ensure that the team collects and reports NEI information consistently across residential initiatives. As part of this task we will summarize 2018 NEI data collection efforts and synthesize portfolio results, providing an infographic or short memo.

Deliverable: 2018 NEI Evaluation Results Summary

Deliverable Date: February 2019

Task 5. SAG and Cross-Utility Coordination

This task covers participation in cross-coordination meetings with other Illinois evaluators, with the goal of aligning methodologies during the course of the evaluation (e.g., jobs impacts methods, participant survey questions, and others). We will also use this task to prepare for and attend IL SAG NEI Working Group meetings, as well as the IL SAG Income Qualified Advisory Committee meetings, when the Committee plans to discuss NEI topics.

Deliverable: Participation in SAG and Cross-Coordination Efforts

Deliverable Date: Ongoing

1.4 Evaluation Budget and Timeline

Table 2 summarizes the timing and budget associated with each evaluation activity.

Table 2. NEI Evaluation Schedule and Budget

Task	Evaluation Task	Deliverable Date	Budget
X	Scoping and Management	Ongoing	\$14,000
1	Review Literature	October 2018	\$25,000
2	NEI Map by AIC Initiative	October 2018	\$19,000
3	Develop NEI Evaluation Tools	September 2018	\$22,000
4	Ad Hoc Evaluation Support	February 2019	\$7,000
5	SAG and Cross-Utility Coordination	Ongoing	\$15,000
Total Budget			\$102,000