

AMEREN ILLINOIS COMPANY 2020 ENERGY EFFICIENCY EVALUATION PLAN

Presentation to the Illinois SAG

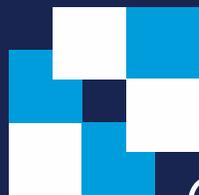
December 6, 2019



Agenda

- Overview of 2020 evaluation approach
- Program-specific evaluation activities
- Portfolio-level evaluation activities
- Evaluation budget

OVERVIEW OF 2020 EVALUATION APPROACH



Opinion **Dynamics**

Portfolio Evaluation Approach

- Impact Evaluation and Net-To-Gross Research
 - Impact evaluation is conducted annually utilizing waved data collection and analysis approaches where needed and feasible (e.g., Custom)
 - NTG research is conducted for each Initiative at least once per cycle
- Process Evaluation
 - General process activities are conducted annually with detailed explorations of key issues as needed throughout the cycle
- Additional Evaluation Activities
 - Non-Energy Impacts, Employment and Economic Impacts
 - Cost Effectiveness
 - IL-TRM Updates
- Use of AMI data and Randomized Controlled Trials

Illinois Evaluation Collaboration

SW Collaboration



- Opinion Dynamics collaborates on an ongoing basis with the other Illinois evaluation teams
- The Illinois evaluators currently hold a monthly evaluation coordination call to keep abreast of key issues
- Methodological coordination occurs regularly as part of SAG meetings on specific topics, including:
 - Illinois NTG Working Group
 - Illinois TRM Technical Advisory Committee (TAC)
 - Illinois Non-Energy Impacts Working Group
- Coordination also occurs on an ad-hoc basis on Illinois-wide key issues or program-specific issues that might impact multiple utility programs
- In a number of cases, the Illinois evaluation teams collaborate on statewide research; we will discuss this throughout today's presentation

Program-Specific Evaluation Activities



Business Program

Core Evaluation Activities

2020 Business Program

- AIC's Business Program is made up of four core initiatives, with a number of offerings delivered as part of those initiatives
- Program is generally being implemented in a fairly similar manner for 2020 as it was in 2019

Business Program

Standard

SBDI

Online Store

Instant Incentives

Custom

BOC

Retro-Commissioning

Streetlighting

Standard Initiative – Planned 2020 Evaluation Activities

- Primarily delivers prescriptive measures with savings assessed via IL-TRM algorithms
- Includes significant SBDI, Instant Incentives and Online Store offerings
- Expected to be a large contributor to portfolio savings (electric and gas) in 2020; Small Business component accounts for a large share of electric savings

Highlighted 2020 Activities	Details
Core Participant Survey	NTG & Process (Census attempt)
SBDI Survey	NTG (Census attempt)
Instant Incentives Participant Survey	NTG & Process (Census attempt)
Impact Analysis	IL-TRM V8.0 Application

Custom Initiative – Planned 2020 Evaluation Activities

- Delivers custom measures; savings are not calculated with IL-TRM algorithms but are determined by rigorous on-site M&V and desk reviews
- Contains several “incubator” offerings
 - Staffing Grant, Metering and Monitoring, Strategic Energy Management, etc.
- Expected to be a major contributor to portfolio savings; notable that maintaining high levels of savings from this initiative has been extremely challenging for AIC

Highlighted 2020 Activities	Details
Participant Survey	NTG & Process (Census attempt)
Cannabis Producer Research	IDIs focusing on Baselines/Compliance
Impact Analysis	Desk Reviews & Site Visits (n ~ 60)

Retro-Commissioning Initiative – Planned 2020 Evaluation Activities

- Retro-commissioning of industrial systems (compressed air and refrigeration), as well as more traditional RCx (HVAC, scheduling, etc.) of other commercial facilities
- Savings are not calculated with IL-TRM algorithms, but are determined by desk reviews and on-site M&V
- Smaller contributor to portfolio savings as compared to Standard and Custom Initiatives

Highlighted 2020 Activities	Details
RSP Interviews	Process (n ~ 5)
Impact Analysis	Desk Reviews & Site Visits (n ~ Census, 10)

Streetlighting Initiative – Planned 2020 Evaluation Activities

- Provides incentives to municipalities for upgrades to energy efficient street lighting and works to encourage early LED upgrades of utility-owned streetlighting
- Small contributor to portfolio savings

Highlighted 2020 Activities	Details
Impact Analysis	IL-TRM V8.0 Application

Building Operator Certification Offering – Planned 2020 Evaluation Activities

- Delivers level 1 and level 2 building operator certification training to AIC customers
- Opinion Dynamics developed a comprehensive impact and process evaluation approach for BOC that involves conducting pre- and post- assessments of BOC participants
- Results from the first BOC cohort (treated in late 2018) will be available in early 2020; surveys and post-assessment site visits are underway at this time

Highlighted 2020 Activities	Details
TBD	Dependent upon results from 2018 cohort (delivered as part of 2019 evaluation) and ongoing statewide conversation in MT Savings Working Group

Residential Program

Core Evaluation Activities

2020 Residential Program

- AIC's 2020 Residential Program is made up of eight core initiatives
- Key 2020 changes:
 - Residential Behavioral Modification is not expected to be implemented in 2020
 - “One-stop shop” approach for MF

Residential Program

Retail Products

Income Qualified

Public Housing

HVAC

Appliance Recycling

Multifamily

Direct Distribution

Smart Savers

Retail Products Initiative – Planned 2020 Evaluation Activities

- Provides discounts for select high efficiency products, including lighting and advanced thermostats, through multiple channels (online retail, point-of-purchase, mail-in rebates)
- A number of new measures were added to the Initiative in December 2019
- Expected to be a major contributor to portfolio savings (electric and gas)

Highlighted 2020 Activities	Details
Participant Survey	Process and NTG for measures introduced in late 2019
Impact Analysis	IL-TRM V8.0 Application

Income Qualified Initiative – Planned 2020 Evaluation Activities

- Delivers home energy audits and whole-house retrofit upgrades to customers up to 300% of the federal poverty line
- Multiple delivery channels, including:
 - Moderate Income
 - CAAs
 - IQ Multifamily

Highlighted 2020 Activities	Details
Single-Family Participant Survey	Installation verification and process
Impact Analysis	IL-TRM V8.0 Application

Public Housing Initiative – Planned 2020 Evaluation Activities

- Offers home energy diagnostic services and whole-house retrofits for single- and multi-family properties owned by government entities (i.e., federal, state, and municipal housing authorities)
- Expected to be a relatively small contributor to portfolio savings

Highlighted 2020 Activities	Details
Impact Analysis	IL-TRM V8.0 Application

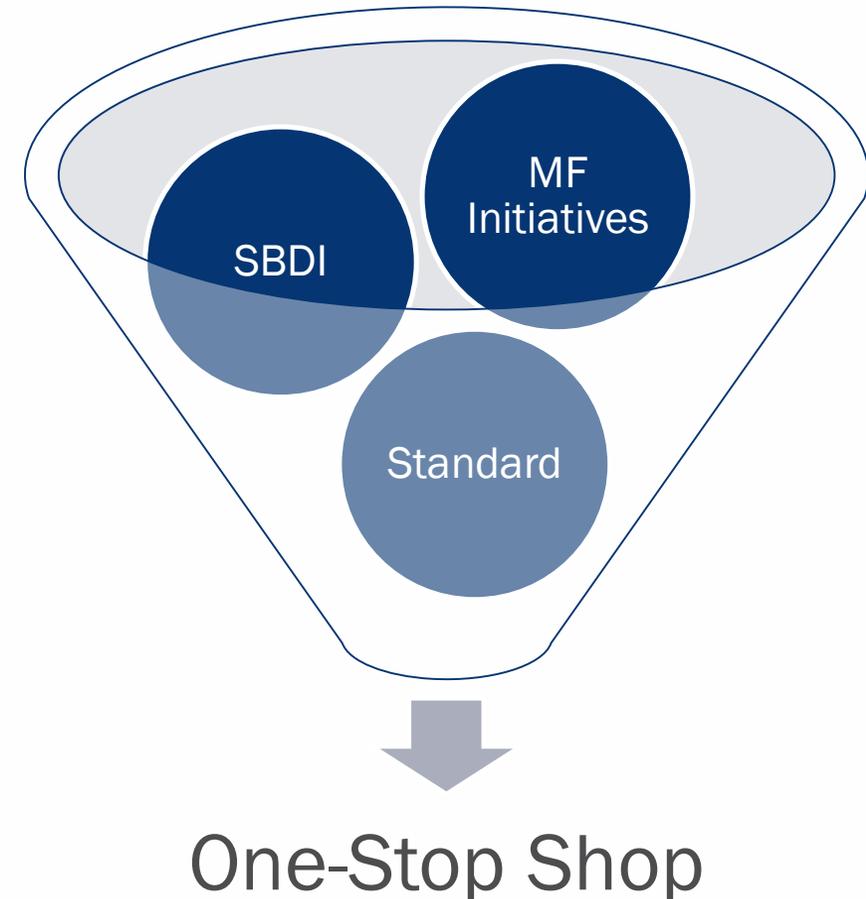
Multifamily Initiative – Planned 2020 Evaluation Activities

- Offers incentives and services that enable energy savings and lower operating costs in market-rate multifamily housing
- Initiative is expected to be a small contributor to overall portfolio energy savings

Highlighted 2020 Activities	Details
Impact Analysis	IL-TRM V8.0 Application

Cross-Cutting Residential Research: Multifamily Property Manager Interviews

- In 2020, AIC will be implementing a “one-stop shop” approach in delivering energy efficiency to multifamily properties
 - Prior to 2020, multifamily customers could access a range of distinct program offerings (e.g., SBDI, Standard, IQ, etc.)
 - This change is intended to ease the customer experience
- We will explore the impact of these design changes in 2020 through qualitative research with multifamily property managers participating in the IQ MF, Public Housing, and market-rate Multifamily Initiatives



HVAC Initiative – Planned 2020 Evaluation Activities

- Offers incentives for the purchase of high-efficiency heating and cooling equipment to both single- and multi-family homes

Highlighted 2020 Activities	Details
Impact Analysis	IL-TRM V8.0 Application

Appliance Recycling Initiative – Planned 2020 Evaluation Activities

- Promotes the retirement and recycling of working, but inefficient refrigerators and freezers from the homes of AIC’s electric customers by offering a turn-in incentive and free pickup
- Expected to be a small contributor to portfolio savings

Highlighted 2020 Activities	Details
Impact Analysis	IL-TRM V8.0 Application
Participant Survey	NTG & Process

Direct Distribution Initiative – Planned 2020 Evaluation Activities

- Provides energy savings kits to students in participating 5th to 8th grade classrooms with a focus on low-income communities that receive both electric and gas service from AIC
- Also provides energy savings kits to Income Qualified customers who participate in the Appliance Recycling Initiative
- Initiative is expected to be a small contributor to overall portfolio energy savings

Highlighted 2020 Activities	Details
Impact Analysis	IL-TRM V8.0 Application

Smart Savers – Planned 2020 Evaluation Activities

- Launched in 2018 as a market development effort
- Provides advanced thermostats at no cost to hard-to-reach customers (SF + MF; Income Qualified)

Highlighted 2020 Activities	Details
Impact Analysis	IL-TRM V8.0 Application

Voltage Optimization

Core Evaluation Activities



Planned 2020 Evaluation Activities



- VO program was launched in 2018
- Implemented at the distribution substation or circuit level and optimizes voltage levels along distribution circuits to reduce electricity usage
- 2020 impacts will be assessed with an algorithmic approach using AIC's previously determined Conservation Voltage Reduction Factor (CVR_f)

Key 2020 Activities	Details
Verification of VO Deployment to Date	All circuits with VO
Application of Energy Savings Algorithm	Used to calculate savings; 2020 Cohort

Portfolio-Level Evaluation Activities



Illinois TRM Research



2020 IL-TRM Evaluation Activities

SW Collaboration



- Ongoing participation in TAC and TRM working groups, including:
 - Lighting Forecast Working Group
 - Advanced Thermostat Subcommittee
 - NTG Working Group
 - Behavioral Working Group
 - Market Transformation Savings Working Group
- Distinct research studies to support TRM updates:
 - Residential behavioral persistence study
 - Advanced thermostat research
 - Compressed air EUL research (statewide)

Residential Behavioral Persistence Study

RCT



- We currently understand that AIC does not expect to deliver a residential behavioral program in 2020
- However, we are continuing our behavioral persistence research throughout the 2018-2021 cycle in an effort to develop accurate trajectories of savings decay
- The 2020 evaluation will be our third annual persistence study; we expect results to be delivered in Q1 2021

Residential Advanced Thermostat Research

AMI Data



- Opinion Dynamics has been working closely with the ComEd evaluation team as part of the Illinois Advanced Thermostat Subcommittee to develop a **residential** advanced thermostat impact evaluation approach consistent with the applicable stipulation
- Prior to the 2020 evaluation, AIC limitations (number of thermostats distributed, AMI rollout, etc.) prevented an AIC-specific study consistent with the methodology currently being implemented for ComEd
- We believe that such a study will be feasible for AIC beginning in late 2020 with results for the 2021 TRM update cycle
- We have initiated communications with AIC on AMI data transfer to support such a study



Non-Energy Impacts

Non-Energy Impacts Research

SW Collaboration



- Results will be used to both inform program marketing/outreach as well as quantify additional impacts of programs for future use
- Ongoing coordination with the NEI Working Group and other Illinois evaluators on methodology and tasks
- Research began in 2018 and continues throughout 2018-2021 cycle
- Under this umbrella, we are also assessing economic and employment impacts of Illinois energy efficiency programs in coordination with other Illinois evaluators



Planned 2020 NEI Evaluation Activities

SW Collaboration



- Some activities are continued from prior years

Highlighted 2020 Activities	Details	Status
SAG & Cross-Utility Coordination	Participate in coordination meetings with Illinois evaluators, the SAG NEI Working Group, and the Income Qualified Advisory Committee as appropriate	Continued
Assessment of Participant NEIs (Income Qualified)	Survey pre-treatment & comparison groups to quantify prioritized health, safety, & comfort NEIs	Continued
Screening Assessment of Commercial NEIs from Business Program	Leveraging planned Business Program participant surveys, screen for positive and negative impacts	New for 2020
Assessment of Societal Air Quality Benefits	Use peer-reviewed EPA tools to estimate pollutants avoided due to the portfolio's total kWh savings as well as the monetized value of resultant avoided health effects	New for 2020

Economic and Employment Impacts

SW Collaboration



- Opinion Dynamics and the ComEd evaluation team collaborated on development of methodology for assessing the economic and employment impacts of Illinois energy efficiency programs
- Initial 2018 results were delivered in November and updates are underway
- We expect that some assessment of these impacts will be conducted for 2020; how this assessment will proceed will depend on stakeholder discussion after the 2018 results are finalized

Other Portfolio-Level Evaluation Activities



Other Activities

Cost-
Effectiveness
Analysis

Program
Design
Support

Pilot
Evaluations

Gas Adjustable
Savings Goals
Review



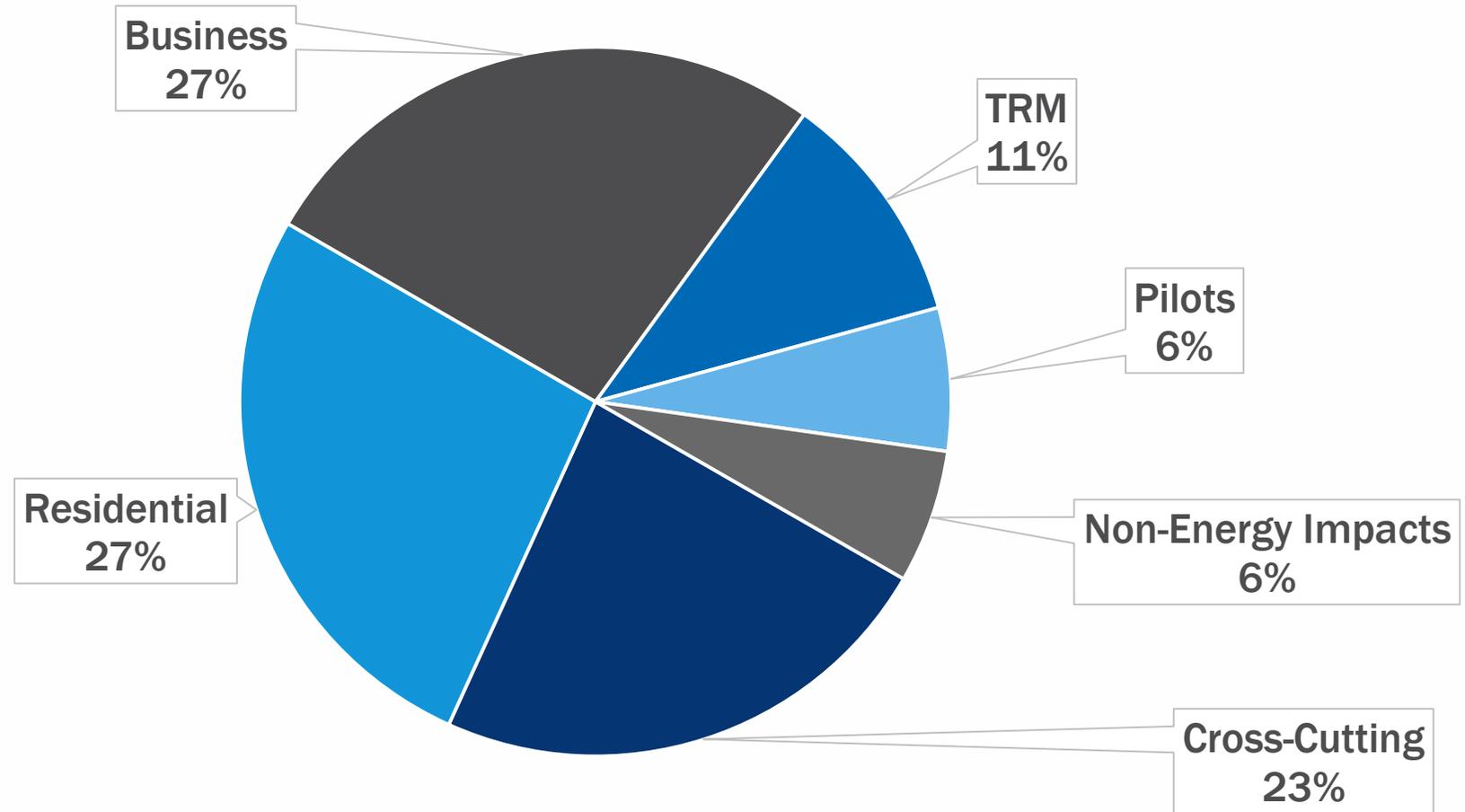
Budget Overview



2020 Evaluation Budget Overview

- Budgets are split between initiative-specific and other evaluation efforts
 - Initiative size and/or expected savings is a guiding factor taken into account - but not used as a rule - in determining budget allocations
- AIC is a dual-fuel program administrator, and therefore budgets are also split between electric and gas evaluation activities
- Budget is reserved for ad-hoc requests to support the Illinois TRM and to support Illinois stakeholder requests

2020 Evaluation Budget Breakdown





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