



2022-2025 Evaluation Plan

ComEd

April 13, 2022

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Introduction

Evaluation Plan Schedule

Step	Date
Presentation to SAG	April 13
First Draft of 4-Year Plan	May 13
Comments Due	June 3
Second Draft	June 10
Comments Due	June 17
Final	June 24

The ComEd Portfolio – 2022

	Budget (Programs Only)	CPAS Contribution (MWh)
Residential & Income Eligible Programs		
Retail/Online	10%	13%
Single-Family Upgrades	8%	4%
Multifamily Upgrades	8%	2%
Product Distribution	4%	9%
Behavior – Res/IE	2%	5%
New Construction – IE	1%	0%
Contractor/Midstream Rebates	1%	1%
Electrification – Res	0%	0%
Electrification – IE	0%	0%
Sector General	1%	
RES/IE TOTAL	36%	34%

	Budget (Programs Only)	CPAS Contribution (MWh)
Business & Public Sector Programs		
Small Business	24%	16%
Incentives	25%	18%
Targeted Systems	7%	6%
Midstream/Upstream	4%	12%
Behavior – Bus/Pub	2%	2%
New Construction – Bus/Pub	1%	1%
Assessments	1%	0%
Electrification - Bus/Pub	0%	0%
Sector General	2%	
BUS/PUB TOTAL	64%	55%
Multi-Segment & Portfolio-Level Activities		
Voltage Optimization	NA	10%
Research & Development		1%

Source: Commonwealth Edison Company's Revised Energy Efficiency and Demand Response Plan 2022-2025

Structure of the Evaluation – Business Programs

Plan 6 Program

Notes

Small Business

Incentives

Separate samples for standard and custom projects

Targeted Systems

Separate samples for RCx, VCx, and Industrial Systems projects

Midstream/Upstream

Behavior Bus/Pub

New Construction - Bus/Pub

Assessments

Structure of the Evaluation – Residential and Income Eligible Programs

Program Type	Plan 6 Program	Notes
Direct to Consumer	Single-Family Upgrades	
	Multifamily Upgrades	Public Housing savings will be distinguished from other multifamily savings.
	Behavior - Res/IE	
Channels	Retail/Online	Separate samples depending on the measure type or program implementation strategy. E.g., Efficient Choice will have a separate approach.
	Product Distribution	Separate samples depending on the distribution strategy.
	New Construction - IE	
	Contractor / Midstream Rebates	

Reports will differentiate between market rate and income eligible results.

Structure of the Evaluation – Pilots and Market Transformation Programs

Pilots and MT Programs with Expected Savings in 2022	Pilot	MT Prog
Residential & Income Eligible		
ENERGY STAR Retail Products Platform		X
New Construction	X	
Variable Speed Heat Pumps as AC Replacement	X	
Business & Public Sector		
Building Operator Certification	X	
Very High Efficiency HVAC	X	
Upstream Commercial Food Service Equipment	X	
Insulating Interior Shades at Willis Tower	X	

Pilots and MT Programs with Evaluation Support	Pilot	MT Prog
All Sectors		
Advanced Codes & Building Performance Standards		X
Residential & Income Eligible		
Affordable Multi-Family Electrification Demonstration	X	
Bronzeville Next Generation HVAC Demonstration	X	
Variable Speed Heat Pump as AC Replacement	X	
Business & Public Sector		
Building Operator Certification	X	
Variable Refrigerant Flow in Colder Climates	X	
Industrial Energy Management Information Systems	X	
Smart Nodes for Street Lights	X	
Switched Reluctance Motors Field Evaluation	X	
Refrigeration Thermal Energy Storage	X	

Source: Discussions with ComEd's Emerging Technologies Team

Program-Level Research

**Summary of 2022-2025 evaluation activities
and timelines**

Evaluation Activities Timeline Overview

Impact

- Waves of impact research throughout the year
- Final program data available January 30 of each year
- Final impact report, economic and employment impacts, and summary report due April 30 of each year
- TRC report is due June 30 of each year

Net to Gross

- Memos delivered as research is completed
- Draft recommendations September
- Final values October 1

Research

- Results presented as research is completed
- TRM, non-energy impacts, and other studies are ongoing

Impact Evaluation Approaches

- Basic Approach
 - TRM-based (majority of residential programs)
 - Custom and model-based (majority of business programs and pilots)
 - Population-level consumption data analysis
- Components
 - Savings Calculator and Workpaper Review
 - Program Tracking Data Review
 - Survey, Phone, or Virtual Verification
 - Onsite Verification
 - Impact analysis in waves

Four-Year Evaluation Timeline – Example

Program	Component	Category	Tasks	CY2022	CY2023	CY2024	CY2025
Midstream/Upstream	Instant Discounts	General	ComEd Staff Interview	x	x	x	x
Midstream/Upstream	Instant Discounts	General	Implementer Interview	x	x	x	x
Midstream/Upstream	Instant Discounts	Impact	Savings Calculator and Work Paper Review	x	x	x	x
Midstream/Upstream	Instant Discounts	Impact	Program Tracking Data Review	x	x	x	x
Midstream/Upstream	Instant Discounts	Impact	Measure-Level Deemed Savings Review	x	x	x	x
Midstream/Upstream	Instant Discounts	Impact	Wave 1 Impact Analysis	x	x	x	x
Midstream/Upstream	Instant Discounts	NTG	Net Savings Research – Customer Free Ridership Survey - Wave 1		x		x
Midstream/Upstream	Instant Discounts	NTG	Net Savings Research – Customer Free Ridership Survey - Wave 2		x		x
Midstream/Upstream	Instant Discounts	NTG	Net Savings Research – Customer Spillover Survey - Wave 1		x		x
Midstream/Upstream	Instant Discounts	NTG	Net Savings Research – Customer Spillover Survey - Wave 2		x		x
Midstream/Upstream	Instant Discounts	NTG	Net Savings Research – Trade Ally Free Ridership Survey		x		x
Midstream/Upstream	Instant Discounts	NTG	Net Savings Research – Trade Ally Spillover Survey		x		x
Midstream/Upstream	Instant Discounts	NTG	Net Savings Research – NTG Ratio Estimation		x		x

Four-Year Evaluation Timeline – Example

Sector	Program	Component	Category	Tasks	CY2022	CY2023	CY2024	CY2025
Res & IE	Retail/Online	All	General	ComEd Staff Interview	X	X	X	X
Res & IE	Retail/Online	All	General	Implementer Interview	X	X	X	X
Res & IE	Retail/Online	All	Impact	Savings Calculator and Work Paper Review	X	X	X	X
Res & IE	Retail/Online	All	Impact	Program Tracking Data Review	X	X	X	X
Res & IE	Retail/Online	All	Impact	Wave 1 Impact Analysis	X	X	X	X
Res & IE	Retail/Online	All	Impact	EOY Impact Analysis	X	X	X	X
Res & IE	Retail/Online	Appliance Rebates	Impact	Measure-Level Deemed Savings Review	X	X	X	X
Res & IE	Retail/Online	Appliance Rebates	NTG	Net Savings Research – Customer Free Ridership Survey		X		X
Res & IE	Retail/Online	Appliance Rebates	NTG	Net Savings Research – Customer Spillover Survey		X		X
Res & IE	Retail/Online	Appliance Recycling	Impact	Measure-Level Deemed Savings Review	X	X	X	X
Res & IE	Retail/Online	Appliance Recycling	NTG	Net Savings Research – Trade Ally/Retailer Free Ridership Survey	X		X	
Res & IE	Retail/Online	Appliance Recycling	NTG	Net Savings Research – Trade Ally/Retailer Spillover Survey	X		X	
Res & IE	Retail/Online	Appliance Recycling	Process	Program Satisfaction and Trade Ally Research of Barriers, Drivers, etc.	X			
Res & IE	Retail/Online	Efficient Choice	Impact	Custom Savings Review	X	X	X	X
Res & IE	Retail/Online	Efficient Choice	Impact	Wave 2 Impact Analysis	X	X	X	X
Res & IE	Retail/Online	Efficient Choice	NTG	Net Savings Research – Customer Free Ridership Survey	X	X	X	X
Res & IE	Retail/Online	Efficient Choice	Process	Program Satisfaction, Barriers, Drivers, etc.	X			
Res & IE	Retail/Online	IE Retail Discounts	Impact	Measure-Level Deemed Savings Review	X	X	X	X
Res & IE	Retail/Online	IE Retail Discounts	NTG	Net Savings Research – Freeridership Method TBD		TBD		TBD
Res & IE	Retail/Online	IE Retail Discounts	NTG	Net Savings Research – Method Spillover TBD		TBD		TBD
Res & IE	Retail/Online	Lighting Discounts	Impact	Measure-Level Deemed Savings Review	X	X	X	X
Res & IE	Retail/Online	Lighting Discounts	NTG	Net Savings Research – Freeridership Method TBD		X		X
Res & IE	Retail/Online	Lighting Discounts	NTG	Net Savings Research – Spillover Method TBD		X		X

Pilots

The Evaluator's role for Pilots depends on the Pilot's maturity and ComEd's intention for the offering:

- **ComEd expects to claim savings in the near-term:**
 - Guidehouse conducts research and verification to estimate savings attributable to ComEd, e.g., Building Operator Certification and Commercial Food Service Equipment.
- **ComEd is exploring a new technology or service to claim savings in the future**
 - Evaluators provide “as needed” support to the Emerging Technologies team's concept and strategy development, e.g., conduct engineering desk reviews for Bronzeville Next Gen HVAC Demo, review project data for Variable Speed Heat Pumps as AC Replacement, and explore evaluation pathways for Air Source Heat Pump training.

Market Transformation

1. The Evaluator's role for Market Transformation programs depends on the program's maturity and ComEd's intention for the offering:

- **ComEd expects to claim savings in the near-term:**
 - Guidehouse conducts research and verification to estimate savings attributable to ComEd
- **ComEd is exploring a new technology or service to claim savings in the future**
 - Evaluators provide “as needed” support to the Emerging Technologies team's concept and strategy development e.g., co-developing an evaluation pathways document with Slipstream and MEEA for Energy Code Advancement.

2. ComEd is currently involved in

- ENERGY STAR Retail Products Platform (coordinated with Third-parties and SAG). The parties are discussing a 10-year evaluation plan and amendments to attachment TRM C.
- Energy Code Advancement (coordinated with Nicor Gas, PSG, NSG, Third-Parties, SAG)
- Building Performance Standards (coordinated with Nicor Gas, PSG, NSG, Third-Parties, SAG)

3. Evaluation of Market Transformation Programs following IL TRM Attachment C:

- Theory-based evaluation and initiative-specific methodology development
 - Program Theory and Logic Model, Natural Market Baseline, Savings per Unit, Market Progress Indicators, Attribution
- Coordination is within Illinois and National (e.g., ENERGY STAR Retail Products Platform EM&V Task Force)

Special Topics Research

NTG Evaluation Timeline



Present memos with draft program-specific NTG results as soon as possible after the research is completed. Ideally no later than early August.



Draft Complete NTG Results to SAG September 1, 2022



SAG NTG meetings

September 2

September 13

September 20

September 27



Final NTG results delivered October 1, 2023

NTG Evaluation Draft Timeline – Residential and IE

Program	Component	Tasks	CY2022	CY2023	CY2024	CY2025
Contractor/Dist Rebates (Midstream/Upstream)	N/A	Net Savings Research – Customer Free Ridership Survey		X		
Contractor/Dist Rebates (Midstream/Upstream)	N/A	Net Savings Research – Customer Spillover Survey		X		
Multifamily Upgrades	MF Market Rate	Net Savings Research – Customer Free Ridership Survey		X		
Multifamily Upgrades	MF Market Rate	Net Savings Research – Customer Spillover Survey		X		
Product Distribution	Elementary Education Kits	Net Savings Research – Customer Free Ridership Survey			X	
Product Distribution	Elementary Education Kits	Net Savings Research – Customer Spillover Survey			X	
Retail/Online	Appliance Rebates	Net Savings Research – Customer Free Ridership Survey		X		X
Retail/Online	Appliance Rebates	Net Savings Research – Customer Spillover Survey		X		X
Retail/Online	Appliance Recycling	Net Savings Research – Trade Ally/Retailer Free Ridership Survey	X		X	
Retail/Online	Appliance Recycling	Net Savings Research – Trade Ally/Retailer Spillover Survey	X		X	
Retail/Online	Efficient Choice	Net Savings Research – Customer Free Ridership Survey	X	X	X	X
Retail/Online	IE Retail Discounts	Net Savings Research – Freeridership Method TBD		TBD		TBD
Retail/Online	IE Retail Discounts	Net Savings Research – Method Spillover TBD		TBD		TBD
Retail/Online	Lighting Discounts	Net Savings Research – Freeridership Method TBD		X		X
Retail/Online	Lighting Discounts	Net Savings Research – Spillover Method TBD		X		X
Single Family Upgrades	Home Energy Assessment	Net Savings Research – Customer Free Ridership Survey			X	
Single Family Upgrades	Home Energy Assessment	Net Savings Research – Customer Spillover Survey			X	

The timeline reflects the **calendar year** new recommendations will be presented to SAG.

NTG Evaluation Draft Timeline – Business 1

Program	Component	Tasks	CY2022	CY2023	CY2024	CY2025
Midstream/Upstream	Instant Discounts	Net Savings Research – Customer Free Ridership Survey - Wave 1		X		X
Midstream/Upstream	Instant Discounts	Net Savings Research – Customer Free Ridership Survey - Wave 2		X		X
Midstream/Upstream	Instant Discounts	Net Savings Research – Customer Spillover Survey - Wave 1		X		X
Midstream/Upstream	Instant Discounts	Net Savings Research – Customer Spillover Survey - Wave 2		X		X
Midstream/Upstream	Instant Discounts	Net Savings Research – NTG Ratio Estimation		X		X
Midstream/Upstream	Instant Discounts	Net Savings Research – Trade Ally Free Ridership Survey		X		X
Midstream/Upstream	Instant Discounts	Net Savings Research – Trade Ally Spillover Survey		X		X
New Construction - Bus/Pub	Non-Residential New Construction	Net Savings Research - Customer Free Ridership Survey		X		X
Small Business	Small Business (includes Small Business Kits)	Net Savings Research – Customer Free Ridership Survey		X		
Small Business	Small Business (includes Small Business Kits)	Net Savings Research – Customer Spillover Survey		X		
Small Business	Small Business (includes Small Business Kits)	Net Savings Research – Trade Ally Free Ridership Survey		X		
Small Business	Small Business (includes Small Business Kits)	Net Savings Research – Trade Ally Spillover Survey		X		
Targeted Systems	Retro-commissioning (RCx)	Net Savings Research – Customer Free Ridership Survey			X	
Targeted Systems	Retro-commissioning (RCx)	Net Savings Research – Customer Spillover Survey			X	
Targeted Systems	Retro-commissioning (RCx)	Net Savings Research – EESP Free Ridership Survey			X	
Targeted Systems	Retro-commissioning (RCx)	Net Savings Research – EESP Spillover Survey			X	

The timeline reflects the **calendar year** new recommendations will be presented to SAG.

NTG Evaluation Draft Timeline – Business 2

Program	Component	Tasks	CY2022	CY2023	CY2024	CY2025
Incentives	Custom	Net Savings Research – Customer Free Ridership Survey	X	X	X	X
Incentives	Custom	Net Savings Research – Customer Spillover Survey	X	X	X	X
Incentives	Standard	Net Savings Research – Customer Free Ridership Survey		X		X
Incentives	Standard	Net Savings Research – Customer Spillover Survey		X		X
Incentives	Standard	Net Savings Research – Trade Ally Free Ridership Survey		X		X
Incentives	Standard	Net Savings Research – Trade Ally Spillover Survey		X		X
Targeted Systems	Industrial Systems	Net Savings Research – Customer Free Ridership Survey			X	
Targeted Systems	Industrial Systems	Net Savings Research – Customer Spillover Survey			X	

The timeline reflects the **calendar year** new recommendations will be presented to SAG.

NTG Evaluation Draft Timeline – Pilots

Sector	Component	Tasks	CY2022	CY2023	CY2024	CY2025
Business	Upstream Commercial Food Service Equipment	Net Savings Research – Customer Free Ridership Survey			X	
Business	Upstream Commercial Food Service Equipment	Net Savings Research – Customer Spillover Survey			X	

The timeline reflects the **calendar year** new recommendations will be presented to SAG.

Research

1. Ductless Mini-Split Heat Pump (DMSHP) Research | Q4 2021 through Q2 2022

- **Key Objectives:**

- Inform ComEd's go-to-market strategy for optimizing their DMSHP offerings through the Residential HVAC program
- Better understand partial displacement scenarios to inform updates to TRM measure 5.3.12 Ductless Heat Pumps

- **Research Approach:** online survey with past program participants

2. Compressed Air Leak Repair Effective Useful Life (EUL) Research | Q4 2021 – Q4 2024

- **Joint study between ComEd and Ameren Illinois**

- **Key Objective:** determine the EUL for compressed air leak repairs with intent to update the TRM

- **Research Approach:** longitudinal study to examine air leak repair failure rates over the course of 30 months

3. Income Eligible Multifamily Research | TBD

- **Key Objective:** develop recommendations leading to increased program participations

- **Research Approach:** IE stakeholder interviews, IE non-participating multifamily building owner and manager interviews, IE program outreach best practice research

4. Business Energy Analyzer Effective Useful Life (EUL) Research | TBD

- **Key Objective:** determine the EUL of energy savings for customers that engage with Business Energy Analyzer

- **Research Approach:** TBD

Multifamily Research

- Additional IE non-impact evaluation research to support ComEd’s compliance with the Plan 6 Stipulation Agreement.
- Research is designed to gain insights from multiple ComEd IE program stakeholders including members of the Income Qualified Advisory Group North, Community Based Organizations, Community Action Agencies, IE program implementers, and multifamily building owners and managers.
- **Purpose:** develop recommendations leading to increased IE program participation.

Research Activities	Description
IE Stakeholder Interviews	Interview IE local champions and stakeholders in ComEd’s service territory to gain their insights on best practice recommendations that could increase IE program participation
IE Non-participating Multifamily Building Owner and Manager Interviews	Identify awareness of ComEd’s IE programs, participation barriers, and opportunities to identify and serve non-participating multifamily buildings
IE Program Outreach Best Practice Research	Identify peer utility best practices to engage IE populations

“Evaluation of Customer Engagement and Targeted Energy Efficiency Delivery Efforts: ComEd will direct its independent evaluator to perform one or more process evaluations of the Customer Engagement and Mapping of Assistance Needs and Targeting Delivery of Weatherization Services efforts described above during the Plan 6 Period and will share the results at a joint SAG and Committee meeting.” (Revised Stipulation Agreement, February 28, 2022, section IV.A.6.c)

PJM

- **Objective:** support ComEd's annual portfolio capacity resource reporting to PJM.
- **Approach:**
 1. Compile the PJM-compliant peak demand reductions from ComEd's portfolio
 2. Transform the data to match PJM's reporting requirements;
 3. Apply current-year evaluation factors to the data;
 4. (for the auction) Incorporate ComEd's participation projections;
 5. Prepare the updated reports for PJM
- **Timing:** Typically February to July on an annual basis

Non-Energy Impacts

1. Economic and Employment Impacts

- Report produced annually by April 30 per CEJA
- Includes indirect and direct economic impacts, and job-years
- Conducted since CY2018, methodology uses IMPLAN and program-year cost and savings data

• Societal Health Impacts

- Analysis conducted annually to produce values for the TRC report
- Report on Societal NEIs produced in June
- Conducted since CY2020, methodology uses EPA tools AVERT and COBRA and portfolio savings data.
- Analysis tools will be revised in accordance with AVERT and COBRA updates

• Participant Impacts

- Research underway with residents of single-family homes and multifamily buildings
- Research underway with building owners and property managers of multifamily buildings
- Monetized NEI results associated with single-family homes expected by Q2 2023
- Monetized NEI results associated with multifamily homes expected by Q2 2024
- Monetized NEI results associated with managing multifamily buildings expected by Q3 2022

Evaluation Coordination

Evaluation Coordination

1. **Guidehouse coordinates with the other utilities and their evaluation teams on an ongoing basis - this includes Ameren IL, Nicor Gas, PGL, and NSG**
2. **Electric-Gas Joint Program Evaluations**
 - Some jointly delivered programs are evaluated by a single-team, producing a single report
 - Joint or coordinated programs and measures are evaluated separately in some cases
 - Evaluators calculate and report joint TRCs
 - **Coordination on Process and TRM Research Studies**
 - TRM measure research considered on a case-by-case basis
 - Process research is done jointly when it is beneficial to do so
 - Statewide research
 - **Coordination beyond specific programs occurs as follows**
 - SAG meetings, Illinois-wide issues
 - Illinois NTG Framework and Protocol Working Group
 - Illinois TRM Technical Advisory Committee
 - Evaluator coordination calls (monthly)

Questions, Feedback



Your Guides

Charles Maglione
Partner

cmaglione@guidehouse.com

703-431-1983

Neil Curtis
Associate Director

neil.curtis@guidehouse.com

802.526.5119

Jeff Erickson
Director

jeff.erickson@guidehouse.com

608.616.4962

Patricia Plympton
Associate Director

patricia.plympton@guidehouse.com

202.253.9356

Nishant Mehta
Associate Director

nishant.mehta@guidehouse.com

608.616.5823

Adam Knickelbein
Associate Director

Adam.knickelbein@guidehouse.com

303.493.5483

