



COMED CY2020 – CY2021 EVALUATION PLAN OVERVIEW

PREPARED FOR COMED AND SAG

November 12, 2019

AGENDA

1. Introduction
 1. Timeline
2. Program-level
 1. Impact - all programs
 2. NTG - which programs are getting NTG
 3. Process - which programs are getting process evaluation
 4. Pilots
 5. Market Transformation
3. Portfolio-level
 1. Measure-specific TRM updates
 2. Effective Useful Life
 3. Non-Energy Impacts
4. Evaluation Budget by Sector
5. Coordination Across Utilities

INTRODUCTION

- Navigant is now Guidehouse

- Evaluation Plans

- First Draft 12/09/2019

- Policy manual:

- Draft 12/15/2019

- Comments 1/15/2020

- Revised draft 1/30/2020

- Comments 2/12/2020

- Final 2/28/2020

Timeline

○ Impact

- ❑ Waves of impact research Summer 2021
- ❑ Final data available January 30, 2021
- ❑ Final Impact Report and Summary Report due April 30, 2021
- ❑ TRC report due June 29, 2021

○ Net-To-Gross (NTG)

- ❑ Memos as soon as research is done
- ❑ Draft recommendations September 1, 2020
- ❑ Final values October 1, 2020

○ Process results presented near time of research completion

○ TRM, NEI, EUL, and other research studies are ongoing

PROGRAM-LEVEL AND PILOT -LEVEL

○ Impact evaluations by April 30, 2021 on:

- ☐ 19 Business Programs
- ☐ 8 Income Eligible Programs
- ☐ 8 Residential Programs
- ☐ 5 Pilots
- ☐ Voltage Optimization

Business Programs

1. Agriculture Offering
2. Combined Heat & Power (CHP)
3. Custom
4. EnergySmart Grocery
5. Industrial Systems Optimization
6. Instant Discounts
7. LED Street Lighting
8. New Construction
9. Nonprofit Organizations
10. Operational Savings /Facility Assessments
11. Public Buildings in Distressed Communities
12. Public Small Facilities (PSF)
13. Retro-commissioning (RCx)
14. Small Business (Private Sector)
15. Small Business Kits
16. Standard
17. Strategic Energy Management (SEM)
18. Telecommunications and Optimization
19. Virtual Commissioning (VCX)

Income Eligible Programs

1. Affordable Housing New Construction
2. Food Bank LED Distribution
3. Manufactured Homes Energy Efficiency
4. Income Eligible Multi-Family Energy Efficiency
5. Product Discounts
6. Income Eligible Single Family Retrofit
7. UIC ERC Low Income Kits
8. Public Housing Retrofits

PROGRAM-LEVEL AND PILOT-LEVEL

Residential Programs

1. Appliance Rebates
2. Elementary Energy Education
3. Fridge Freezer Recycling
4. Heating & Cooling (HVAC) Rebates
5. Home Energy Assessments (HEA - Joint w/Nicor Gas & PG/NSG)
6. Home Energy Reports
7. Lighting Discounts
8. Multi-Family - Market Rate (joint with Nicor Gas & PG/NSG)

Pilots

1. Adsorbent Air Cleaner (Business)
2. Commercial Geothermal Advancement (Business)
3. Commercial Food Service Equipment (Business) (joint with Nicor Gas & PG/NSG)
4. Income Eligible Program Design (Income Eligible)
5. Savings for Income Eligible Seniors (Income Eligible)

Voltage Optimization

Three Types of Impact Evaluation Approaches

- TRM-Based
 - Custom and Model-Based
 - Regression
-
- Majority of Residential and Income Eligible program and pilot evaluations are TRM-based
 - Majority of Business program and pilot evaluations are custom

Net-To-Gross Analysis

- Business
 - Combined Heat and Power
 - Custom
 - Industrial Systems
 - New Construction
 - Public Small Facilities
 - Standard
- Income Eligible
 - Product Discounts (TBD based on SAG discussion)
- Residential
 - Appliance Rebates
 - Heating and Cooling Rebates
 - Lighting Discounts
 - Multi-Family
- Pilots
 - Commercial Food Service Equipment

Process Analysis

○ Business

- Operational Efficiency
- Third Party Programs: Agriculture, Telecom, Public Buildings in Distressed Communities

○ Residential

- Elementary Energy Education

○ Pilot

- Commercial Geothermal Advancement

○ Income Eligible

- Single Family Retrofits (continuation from 2019)
- Multi-family Retrofits (continuation from 2019)
- Product Discounts

Pilots

- Adsorbent Air Cleaner – possible TRM update
- Commercial Geothermal Advancement - possible TRM update
- Upstream Commercial Food Service Equipment - possible TRM update
- Income Eligible Program Design – possible additional delivery channels with new partnerships that can enable access to communities currently underserved by certain energy efficiency offerings.
- Savings for Income Eligible Seniors - possible additional approach aimed at providing greater access to energy efficiency measures for income eligible senior customers.

MARKET TRANSFORMATION EVALUATION ACTIVITIES

Market Transformation

- Commercial Food Service Equipment – Evaluation planned for CY2020
- Building Operator Certification – ComEd currently exploring 2020 options
- Retail Products Platform - ComEd currently exploring 2020 options
- Residential and Commercial New Construction Codes - ComEd currently exploring 2020 options

Program Level Year-by Year Evaluation Plan

See Accompanying Spreadsheet

- Program by program
- Year by year
- Matrix with research tasks

Program Level 4-Year Evaluation Plan Example – Business Standard Program

Sector	Program	Task	2018	2019	2020	2021
Business	Standard	Tracking System Review	X	X	X	X
Business	Standard	Data Collection – Participant Surveys	X	X		X
Business	Standard	Data Collection – Program Manager and Implementer Interviews	X	X	X	X
Business	Standard	Data Collection – Stakeholder Interviews	X		X	
Business	Standard	Data Collection – EESP Interviews	X	X	X	X
Business	Standard	Data Collection – Literature Review			X	X
Business	Standard	Impact – Billing Analysis	X		X	X
Business	Standard	Impact – Engineering Review	X	X	X	X
Business	Standard	Impact – Measure-Level Deemed Savings Review	X	X	X	X
Business	Standard	Impact – Verification & Realization Rate	X		X	X
Business	Standard	Net-to-Gross – Customer Self-Report Surveys		X		X
Business	Standard	Net-to-Gross – EESP Spillover Research		X	X	
Business	Standard	Process Analysis	X	X		

Portfolio-Level Research Includes

- Updates to the TRM
- Effective Useful Life
- Non-Energy Impacts
- Net-To-Gross Working Group (updates to the TRM)
- PJM

TRM Research

- Advanced Power Strips
 - Potential ISR research on additional program delivery types
 - Lighting midlife adjustment research
 - TBD based on stakeholder feedback
 - Navigant is proposing shelf surveys and in-store intercepts in the market rate and income eligible retail programs which will provide data related to this research
- Smart Thermostats
 - Continuing of working group and ESF update for v9
- General TRM Updates
 - Review of evaluation research priorities

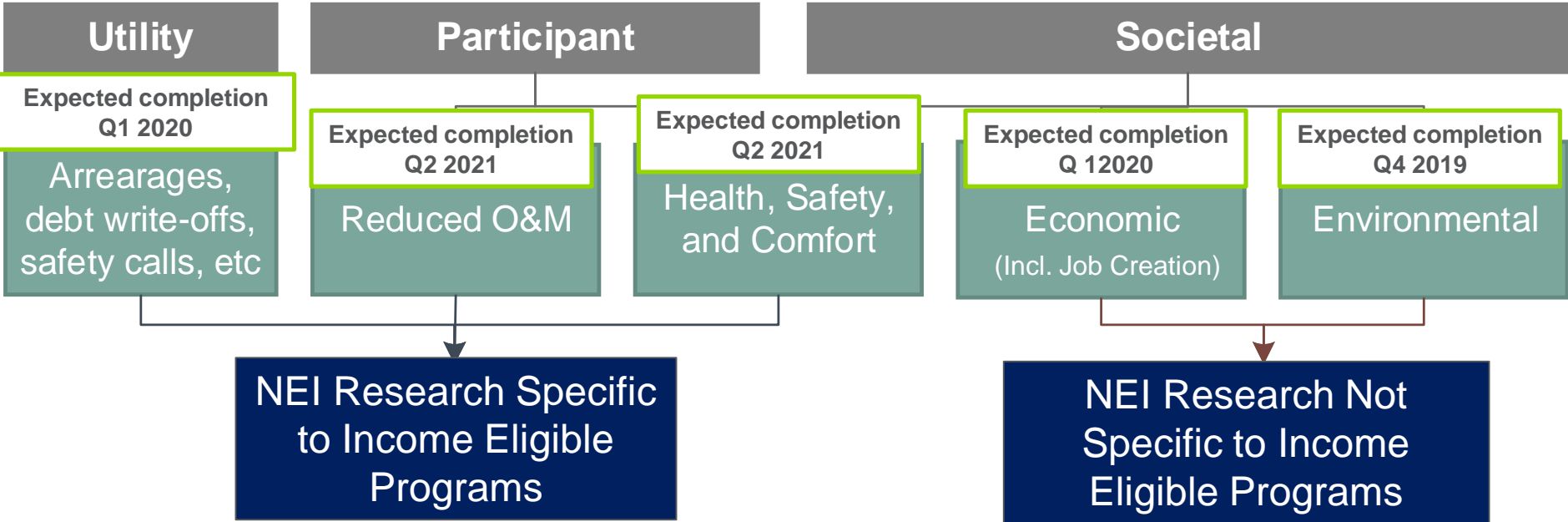
Effective Useful Life Research

- Compressed Air EUL Research
 - Identified as a high priority measure through previous research
 - Research activities will include:
 - Phone surveys of program participants and/or review of implementer or service provider audit report
 - Retention surveys with past program participants
 - Field study
- Retrocommissioning Persistence Framework
 - Developing a methodology to assess the measure life for programs that provide ongoing interventions

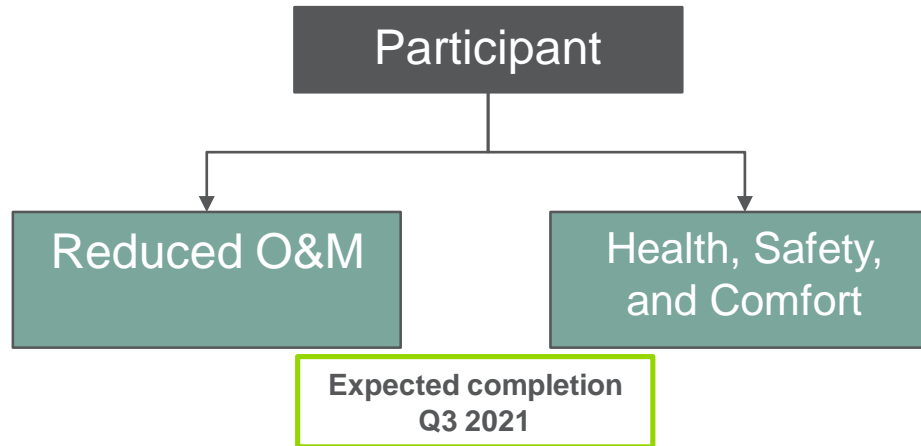
TRM Updates in 2019

- Variable Speed Drives for HVAC Pumps and Cooling Tower Fans - secondary research to update savings factors
- Refrigerator and Freezer Recycling - secondary research to update savings factors
- Effective Useful Life - primary research for high impact measures
- Loadshapes - secondary research to update high impact loadshapes
- Smart Thermostats - additional primary research to update savings factor
- Non-Energy Impacts - primary research to include NEIs in the TRM
- Air Conditioner Tune-Up - primary research to update savings factors

Non-Energy Impacts - Phase 1



Non-Energy Impacts (Associated with Non-Income Eligible Programs) - Phase 2



Use of AMI Data

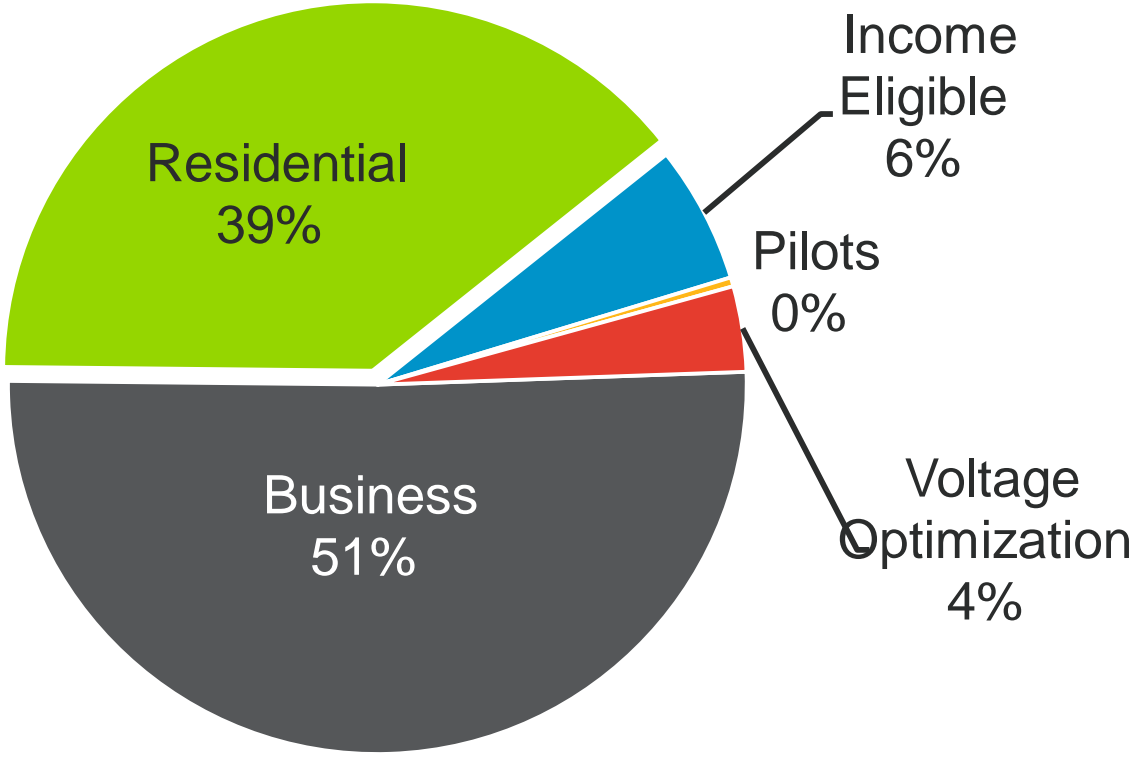
○ Energy Usage Regression Analysis

- Residential advanced thermostats impact analysis
- Weather-normalized bulk regression analysis for the population of C&I custom projects
- Other TRM measures will be considered, but no studies are planned at this time

○ M&V

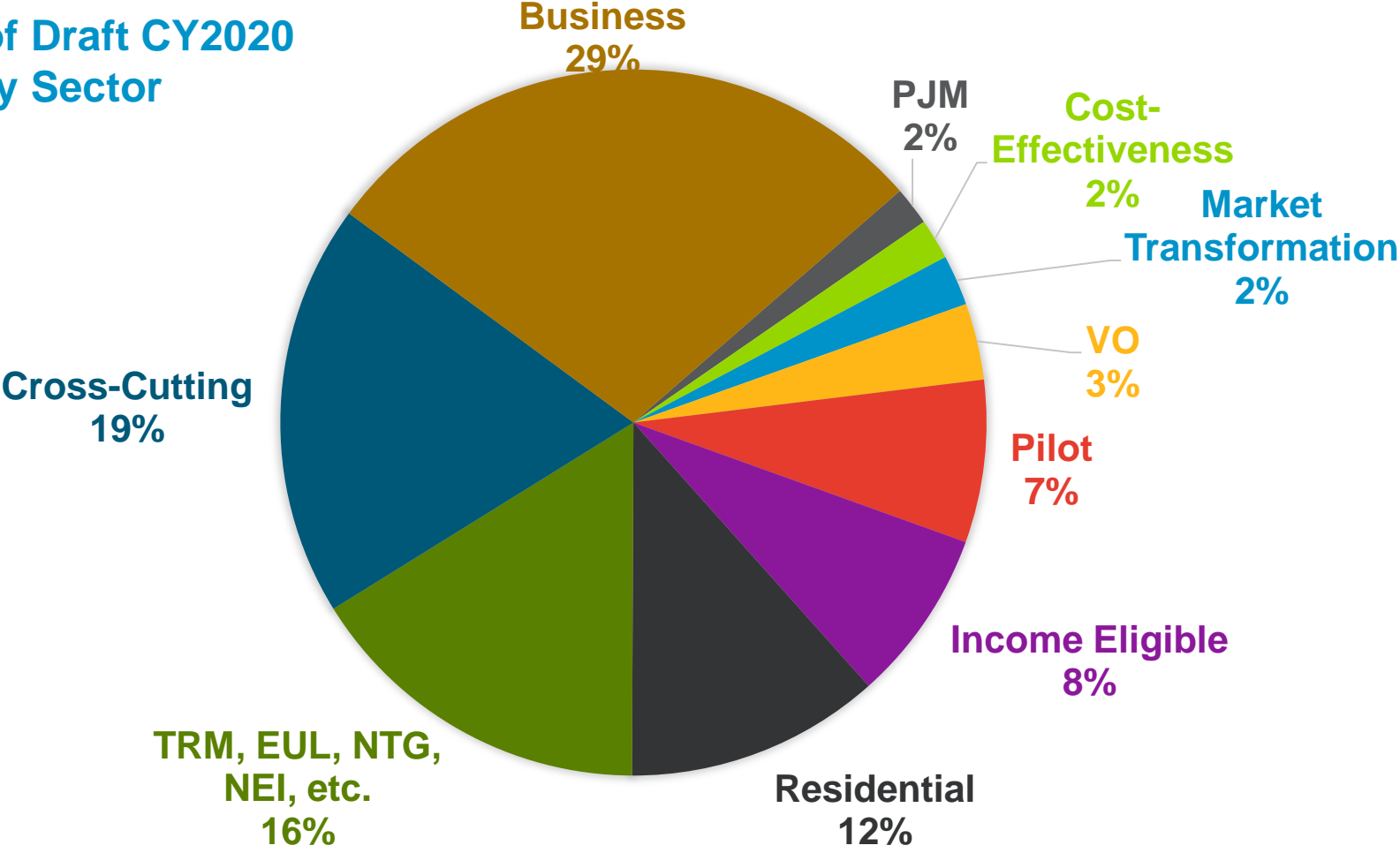
- Standard program
- Custom program
- Monitoring Based Commissioning Program
- Voltage Optimization

CY2018 Net kWh by Sector



EM&V BUDGET OVERVIEW

Percent of Draft CY2020 Budget by Sector



COORDINATION ACROSS UTILITIES

- Navigant 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

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