



PEOPLES GAS NORTH SHORE GAS 2019-2021 EVALUATION PLANS

PRESENTATION TO THE ILLINOIS SAG

December 4, 2018

NAVIGANT

OBJECTIVES FOR TODAY'S PRESENTATION

Peoples Gas – North Shore Gas Multi-Year Evaluation Plans for 2019-2021

1. Overview of Programs Being Evaluated

- Multi-year evaluation plans for 2019 through 2021

2. Overview of Research Activities

- Results expected for which version of the IL-TRM?

3. Evaluation Methods

- Overview of approaches
- Coordination with other programs and utilities
- Use of Randomized Control Trial (RCT) Quasi-Experimental Design (QED)
- Advanced Metering Infrastructure (AMI)

4. Budget Overview

- General approach for prioritizing resources
- Budget for responding to TRM requests?

5. Q&A and Stakeholder Feedback

COORDINATION ACROSS UTILITIES

- **Navigant coordinates with the other utilities and their evaluation teams on an ongoing basis - this includes Ameren, ComEd, and Nicor Gas**
- **Coordination beyond specific programs occurs as follows:**
 - SAG meetings on specific topics and issue management
 - Via e-mail on Illinois-wide key issues or issues that are program specific and may impact multiple utility programs
 - Illinois NTG Framework and Protocol Working Group
 - Illinois TRM Technical Advisory Committee
 - Coordination calls (monthly)
- **Gas/Electric Joint Program Evaluations (with ComEd evaluation team)**
 - Some evaluations are being done jointly (BNC, RCx, Income Eligible, etc.)
 - Joint programs can be evaluated separately in some cases
- **Support Coordination on Research Studies**
 - Steam traps (business); Advanced thermostat billing analysis (residential)
 - TRM measure research considered on a case-by-case basis

EVALUATION METHODS

Gross Impact Evaluation Overview

- Estimate verified gross impacts annually on every program
- Four main gross impact methodologies:
 1. TRM-based measure verification
 2. Custom project engineering review and on-site M&V
 3. Billing usage regression analysis
 - RCT can be considered if the program or pilot was set up as a randomized control trial
 - QED can be considered for research studies to update TRM impacts (for example, Advanced Thermostats)
 4. Calibrated simulation (calibrated to billing usage)

Advanced Metering Infrastructure

- North Shore Gas is deploying residential AMI 2018 through 2021
- Use of data will be addressed with the next plan cycle (2022-2025)

GROSS IMPACT METHODOLOGIES

Program Offering	TRM	Custom M&V	RCT / QED	Other
RESIDENTIAL				
Home Energy Rebates – HVAC	✓			
Home Energy Rebates – Weatherization	✓			
Home Energy Jumpstart Direct Install	✓			
Residential Advanced Thermostats	✓			TRM savings from QED impact regression analysis
Residential New Construction				Calibrated simulation models
Home Energy Reports			✓ (RCT)	
Elementary Energy Education	✓			
Multi-Family Direct Install and Retrofits	✓	✓		
Income Eligible				
Single Family Retrofits	✓			
Multi-Family and Public Housing	✓	✓		
Affordable New Construction	✓	✓		
Business and Public Sector				
Prescriptive Rebates	✓			
Custom Rebates		✓		
Combined Heat and Power		✓		
Retro-Commissioning		✓		
Gas Optimization		✓		
Strategic Energy Management		✓		
Business New Construction		✓		
Small Business Direct Install and Retrofits	✓	✓		

EVALUATION METHODS

Net-to-Gross Research

- **Conduct research once per four-year planning cycle**
 - Mature programs, stable markets, large samples
- **Conduct annual or biannually**
 - Small annual population of custom projects
 - Market or program is changing
- **Follow the TRM NTG protocols**
 - Billing regression may provide net savings
 - Conduct free ridership and spillover research, although research may be done separately

2019-2021 – INCOME ELIGIBLE PROGRAMS

Evaluation Research Activities by Year

Offering	Process Researched Year(s)	NTG Researched Year(s)	NTG Results Delivered	Other Research / Notes	
				Year	Activity
Single-Family Retrofits					
Audit / DI Retrofits	2018-19	NA	NA	2020	Update TRM: Calibrated simulation of comprehensive retrofits (Under Consideration)
Income Eligible Multi-Family and Public Housing Energy Savings Programs					
Audit / DI	2018-19	NA	NA		
Retrofit Projects	2018-19	NA	NA		
Affordable New Construction					
New Construction	2018 and 2020	NA	NA		

2019-2021 – RESIDENTIAL PROGRAMS

Evaluation Research Activities by Year

Offering	Process Researched Year(s)	NTG Researched Year(s)	NTG Results Delivered	Other Research / Notes	
				Year	Activity
Home Energy Rebate					
Equipment Rebates	2019 (Part.) 2020 (TAs)	2019 (FR) 2020 (SO)	2019 (FR) 2020 (SO)		
Weatherization Rebates	2019	2019	2020		
Advanced Tstat	TBD	None	NA	2020-21	Update TRM: Conduct billing analysis (QED)
RNC (if offered for 2020)	2020	2020	2021	2020	Calibrated simulation conducted for impact evaluation
Home Energy Jumpstart					
DI	2020	2020	2021		
Advanced Tstat	TBD	None	NA	2020-21	Update TRM: Conduct billing analysis (QED)

2019-2021 – RESIDENTIAL PROGRAMS

Evaluation Research Activities by Year

Offering	Process Researched Year(s)	NTG Researched Year(s)	NTG Results Delivered	Other Research / Notes	
				Year	Activity
Education and Outreach Track					
Home Energy Reports	TBD	N/A	NA	2019	Net impacts through RCT Persistence Study under consideration
EEE	2020	None	NA	2018-19	Investigate water heating fuel split
Multi-Family					
Audit / DI	2018	2018	2019	NA	NTG research excludes FR for showerheads and aerators
Retrofit Projects	2018	2018	2019		

2019-2021 – BUSINESS PROGRAMS

Evaluation Research Activities by Year

Offering	Process Researched Year(s)	NTG Researched Year(s)	NTG Results Delivered	Other Research / Notes	
				Year	Activity
Business Program (BP) and Public Sector Direct Install and Prescriptive Rebates					
BP Equipment Rebates	2019	2019	2020	2018-19 2018-19	Pipe Insulation secondary research Update TRM: Steam trap billing analysis (Under Consideration)
Public Sector Rebates	2019	2019	2020		NTG research will not include DCEO legacy projects
Assessment/DI	2019	2019	2020		
Upstream Rebates	2019	2019	2020		
Business Program and Public Sector Custom Rebates					
Custom and Public Sector	2018	2018	2019		NTG research will not include DCEO legacy projects
Public Sector Only	2020	2020	2021		NTG research will not include DCEO legacy projects
CHP	Combine with NTG	Project Specific	Project Specific		

2019-2021 – BUSINESS PROGRAMS

Evaluation Research Activities by Year

Offering	Process Researched Year(s)	NTG Researched Year(s)	NTG Results Delivered	Other Research / Notes	
				Year	Activity
Gas Optimization					
Gas Opt	Combine with NTG	2019 2021	2020 2022	2019	NTG and process research with study service providers
Retro-Commissioning (RCx)					
RCx	2021	2021	2022		
Strategic Energy Management (SEM)					
SEM Cohorts	2018-21	2020	2021	2018-21	Gross impacts estimated through billing analysis
Joint Business New Construction (BNC)					
BNC	Combine with NTG	Every Year	Every Year		

2019-2021 – SMALL BUSINESS PROGRAMS

Evaluation Research Activities by Year

Offering	Process Researched Year(s)	NTG Researched Year(s)	NTG Results Delivered	Other Research / Notes	
				Year	Activity
Small Business					
Audit / DI	2020	2020	2021		
Retrofit Projects	2020	2020	2021	2018-19	Thermostats – secondary research on savings
				2020-21	Update TRM: Advanced thermostat billing analysis (UC)

2019-2021 – OVERVIEW OF RESEARCH ACTIVITIES

Activity	Status	TRM Affected	2018	2019	2020	2021
Residential Advanced Thermostat Billing Analysis for 2020-21 heating season	Planned	V10 (2022) V11 (2023)			3Q-4Q	1Q-3Q
Steam Traps – Background Research on Viability of Impact Study	Active	NA	2Q-4Q			
Steam Traps – Impact Study with Usage Billing Data	Under Consideration	V9 (2021)		1Q-3Q		
Non-Residential Pipe Insulation – Thermal Regain Factors and Primary Research Opportunities	Active	V8 (2020)	2Q-4Q	1Q		
Small Business Thermostats – Savings Benchmarking	Active	V8 (2020)	2Q-4Q	1Q		
Small Business Advanced Thermostats – Billing Analysis	Under Consideration	V10 (2022)			1Q-4Q	
Small Business – Process Research	Under Consideration	NA		1Q-4Q		
Home Energy Reports – Investigate Feasibility of a Persistence Study	Completed	NA	Q3			
Home Energy Reports – Persistence Study	Under Consideration	V9 (2021)		1Q-4Q		
Income Eligible Single Family Retrofits Calibrated Simulations	Under Consideration	V10 (2022)			1Q-4Q	

2019-2021 – BUDGET PRIORITIES

Prioritizing Resources

- Meet Requirements for Savings Verification and Reporting
- Program Contribution to Portfolio Net Savings
- Program Spending within Portfolio
- Program Maturity
- Program/Implementer Needs and Effectiveness
- SAG Input and ICC Orders
- High Impact Measures
- Savings Uncertainty

Budget for TRM Requests and Additional Research

- We participate in TRM TAC & workpaper review
- We conduct secondary research and engineering analysis for TRM
- Primary TRM measure research will be considered, but funding is limited
- Can we leverage joint studies?

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