ComEd Midstream Heat Pump Water Heater Pilot Program CY 2019 Evaluation Plan

## Introduction

In CY2019, ComEd is launching a midstream Heat Pump Water Heater (HPWH) Pilot Program. This technology has seen limited participation and savings within downstream programs. ComEd hopes to increase participation and savings by moving up the supply chain and involving manufacturers and distributors as well as end users in the program. Purchases of this type of equipment are largely influenced by first costs and by distributor stocking practices which make HPWHs a good candidate for a midstream program.

The HPWH Pilot Program design utilizes the same incentive levels currently being offered to customers in the traditional downstream program. However, the new program provides the incentive to the installing contractor. The end use customer does not directly receive any incentives but receives the energy efficient equipment at a more competitive price. This contractor incentive is coupled with a distributor administrative incentive for each unit sold, allowing the distributor to recover some of the added administrative costs associated with their participation, thereby increasing the distributors likelihood to participate. Over time, the pilot program will attempt to transform the market through improving market awareness, increasing energy efficient product availability, and subsequently sales volume of efficient products.

The table below shows the activities related to the evaluation plan.

Table 1. Evaluation Approaches

|  |  |
| --- | --- |
| Tasks | CY2019 |
| Program Initiation Meetings  | X |
| Program Manager and Implementer Interviews | X |
| Energy Savings Analysis  | X |
| Net to Gross Secondary Research | X |
| Identifying Market Transformation (MT) Indicators | X |

## Evaluation Research Topics

The evaluation will seek to answer the following key researchable questions:

1. What are the gross and net energy savings from this midstream program?
2. How can participation and savings from the program be improved?
3. How is this program transforming the market?

## Evaluation Approach

The following subsections summarize the evaluation tasks that Navigant will complete to answer the evaluation research questions. The detailed plan outlines activities for this research in five tasks as summarized in Table 2.

Table 2. Summary of Tasks and Activities

|  |  |
| --- | --- |
| Tasks | Activities |
| Task 1: Program initiation meetings & literature review | * Telecoms
* Literature review
 |
| Task 2: Staff and IC interviews | * Develop interview guide
* Conduct interviews
 |
| Task 3: Develop market transformation indicators and associated baselines | * Review program theory, logic model and market transformation indicators
* Establish data sources
* Determine baselines
 |
| Task 4: Energy/demand savings analysis  | * Impact analysis using sales data and TRM savings algorithms
 |
| Task 5: Net to gross development  | * Secondary research on NTG for midstream programs
 |

### Project Initiation Meetings

Navigant participated in a planning meeting with ComEd and the implementers to gather important context for the HPWH Pilot Program evaluation via conference calls in September of 2018. We will meet again in early CY2019 when the program launches to learn the specifics of the final program design.

### Impact Evaluation

#### Gross Impact Evaluation

Navigant suggests a sales data analysis to determine savings for the program year. We plan to use tracking data and sales data from the participating market actors (manufacturers) which should contain equipment and customer information. Customer demographic data is important for several reasons such as to confirm that each unit is getting installed within the utility service area. We will utilize the savings values and algorithms from the Illinois Technical Reference Manual (IL TRM) to develop energy savings estimates for each equipment type.

For heat pump water heaters, energy and demand saving equations are provided in the IL TRM, and the required inputs to the equations include energy factor and rated volume (there are no default values provided). Navigant will request the necessary tracking and sales data that contains the key parameters of the equipment and will combine it with independent third-party research data sources. Other key parameters needed include demographic information of the customers, customer counts, equipment units and purchase date. Navigant will request the necessary tracking and sales data that contains the key parameters of the equipment and customer information.

#### Net Impact Evaluation

Currently there is no NTG value for midstream programs provided in the IL TRM. As the program is new and small, and its success and longevity are as yet unknown, Navigant will conduct secondary research on NTG for this first year of the program. We will perform a literature review for NTG on midstream programs in similar regions to find a reasonable proxy.

### Process Evaluation

#### Staff & Implementer Interviews

ComEd staff and the implementation contractor will be interviewed to ascertain essential information about the program design and customer experience. The evaluation team will develop interview instruments to include questions of interest for the evaluation and to allow for a free-flowing conversation to obtain candid feedback from the interviewee. Navigant plans to conduct two interviews of roughly an hour in length with the implementer (CLEAResult) and the ComEd program lead.

### Derivation of Market Transformation Impacts

To help ComEd develop a robust market transformation (MT) evaluation framework, Navigant will review the program theory and logic model (PTLM) to identify MT indicators that can be tracked and measured. If a PTLM has not been developed, we will develop one together with ComEd and the implementer. Tracking MT indicators will allow ComEd to monitor where they are transforming the market and enacting change.

The following activities will be conducted this year to set up this framework and begin tracking market transformation indicators.

#### Program Theory and Logic Model

Navigant will either create or review a program theory and logic model (PTLM) depending on availability. Once the PTLM has been developed, Navigant will facilitate a working session with ComEd and the implementer to identify MT indicators and potential information sources to track them.

#### Identify Market Transformation Indicators

Navigant will then identify a MT indicator for each output and outcome from the logic model and a data source for each indicator. These indicators will become the evaluation roadmap to determine what data we need to collect and how we collect it. The indicators will be measurable and will focus on non-energy related outputs and outcomes to track MT progress. Navigant will solicit and compile suggestions for specific tracking data that will enable program managers to monitor ongoing program performance.

#### Methodology for Tracking MT Metrics

Navigant will collect and analyze primary and secondary data to establish a methodology for tracking MT metrics. The collected data may include sales information, stocking patterns, customer and other market actor interviews. The data will be analyzed using a variety of tools as needed to establish a Year 1 baseline. The baseline results will be used in future evaluation years to measure MT progress and see how the market has changed over time as a result of the program’s activities.

## Evaluation Schedule

Table 3 below provides the schedule for key deliverables and activities. Adjustments will be made, as needed, as evaluation activities progress.

Table 3. Schedule

|  |  |
| --- | --- |
| Activity  | Timeline |
| Task 1 – HPWH Program Kick-off Meeting | TBD |
| Task 2 – Staff & Implementer Interviews | Mar 2019 |
| Task 3 – Identify Market Transformation Indicators and Data Collection Needed for Program Performance Tracking | Mar Apr 2019 |
| Task 4 – Establish a Methodology for Tracking Indicators | May Jun 2019 |
| Task 5 – Establish a First Year Baseline | Jul-Aug 2019 |
| Wave 1 Sales Data | May 2019 |
| Wave 2 Sales Data | Sep 2019 |
| Wave 3 Sales Data | Jan 30 2020 |
| Task 6 Sales Data Analysis | Feb 2020 |
| Draft report to ComEd and SAG | March 5 2020 |
| Comments on draft | March 19 2020 |
| Revised draft | Mar 29 2020 |
| Comments on re-draft | Apr 12 2020 |
| Final report to ComEd and SAG | Apr 20 2020 |