

Peoples Gas & North Shore Gas Business Program (Gas Optimization) GPY4 –GPY6 Evaluation Plan

Introduction

The Second Triennial Plan¹ of the Peoples Gas (PGL) and North Shore Gas (NSG) comprehensive Business Program bundles existing programs into paths, and allows all eligible customers to access any of the five paths² as a one-stop-shop based on the customer’s needs. This evaluation plan covers the GPY4-GPY6 evaluation activities for measures installed and gas savings realized through the Gas Optimization path. This path provides a service where energy advisors/engineers review a commercial facility for operation and maintenance issues that, if corrected, often provides short payback projects that are very attractive to owners. Examples of issues uncovered from a Gas Optimization Assessment include correcting condensing boiler operating temperatures to ensure condensing operation and therefore savings, aligning actual facility operating hours and ventilation scheduling.³ The program is implemented by Franklin Energy Services (FES) with trade ally engagement and technical support for program delivery and marketing.

The Gas Optimization path achieved energy savings beginning in GPY3, and impact was evaluated together with the C&I Custom Program in GPY3. The program has been established as a separate path within GPY4 Business Programs for existing facilities. The GPY4 evaluation of the Gas Optimization Program will continue gross impact engineering file review and conduct on-site Monitoring and Verification (M&V) on a sample of projects for gross savings impact verification. The GPY4 verified net impact evaluation approach will apply the Net-to-Gross (NTG) ratio approved through the Illinois State Advisory Group (SAG) consensus. In GPY6, the evaluation team will conduct NTG research through interviews with program participant customers and trade allies to determine free ridership and spillover to inform NTG recommendations for GPY6 and beyond. The NTG survey will include additional process questions to elicit feedback on participants’ satisfaction and suggestions for program improvement.

Evaluation Research Topics

The key evaluation objectives for the Gas Optimization Program for GPY4 are to: (1) quantify gross and net savings impacts from the program, and (2) to determine key process-related program strengths and weaknesses and identify ways in which the program can be improved.

The evaluation team has identified the following key topics for evaluation research in GPY4:

Impact Evaluation:

1. What are the program’s verified gross savings, using field measurement and verification (M&V) and engineering research to estimate savings?

¹ Peoples Gas/North Shore Gas Energy Efficiency Plan for the Second Triennial Plan period of June 1, 2014 – May 31, 2017 (known as —Plan 2)

² The comprehensive business program paths include – Direct Install, Engineering Assistance, Standard Incentives, Custom Incentives, and Gas Optimization.

³ Second Triennial EEP Compliance Filing.pdf

2. Are the ex-ante per-unit gross impact savings correctly implemented by the tracking system and reasonable for this program?
3. What are the program’s verified net savings?
4. What is the researched value for Net-to-Gross (NTG) ratio?

Process Evaluation and Other Research Topics:

The GPY4 process evaluation activities for the Gas Optimization Program will be limited to interviews with program staff and the implementation contractor staff, and review of program materials to verify information about marketing and outreach strategies made in GPY4 that impacted customer participation and satisfaction.

Evaluation Approach

Data Collection, Methods, and Sample Sizes

Table 1 below summarizes data collection methods, data sources, and timing to answer the evaluation research questions.

Table 1. Core Data Collection Activities

What	Who	Target Completes	When	Comments
On-site M&V/ Engineering File Review	Participating Customers	All (incl. 5 on-site M&V)	May – Aug 2015	Gross savings verification research
Program Material Review	Program Documents	All	May – Aug 2015	Familiarize with program marketing and delivery
In Depth Interviews	Program Management	2-3	March 2015-2017	Interview program staff and IC staff
Telephone Survey	Participating Customers	All	May – Aug 2017	FR, SO, Process
Telephone Survey	Trade Ally	All	May – Aug 2017	SO and Process

Gross Impact Evaluation

The GPY4 gross savings impacts approach will involve engineering review of project documentation at the measure-level for all implemented projects to verify participation and tracking system entries, check documentation of invoiced quantities and installed measure characteristics, and confirm compliance with eligibility. We will conduct on-site M&V of measure-level savings on a subset of five project sites selected from the GPY4 population of completed projects to estimate site-specific savings, in addition to engineering desk review of all other projects.

On-site measurement and verification will include participant interviews, baseline assessment, installed equipment verification, and performance measurement. Measurement may include spot measurements, run-time hour data logging, review of participant energy management system trend data, and post-installation interval metering. The engineering analysis methods and degree of monitoring will vary from project to project, depending on the complexity of the measures, the size of the associated savings, the

potential to revise input assumptions, and the availability and reliability of existing data. The evaluators will contact the implementers prior to conducting site visits to ensure that the evaluation team has all correct and relevant information.

An analysis plan will be developed for each project selected for on-site data collection. Each plan will explain the general gross impact approach used (including monitoring plans), provides an analysis of the current inputs (based on the application and other available sources at that time), and identifies sources that will be used to verify data or obtain newly identified inputs for the ex post gross impact approach. The measure-level verified gross realization rates will be extrapolated to the program population using a ratio estimation method to yield ex post evaluation-adjusted gross energy savings.

Net Impact Evaluation

The GPY4 net impact evaluation will apply the Net-to-Gross (NTG) ratio accepted by Illinois Stakeholders Advisory Group (SAG) consensus to estimate the verified net savings for the PGL/NSG GPY4 Gas Optimization Program. The deemed NTG value by program path is provided in Table 2.

Table 2. PGL/NSG Deemed NTG Values for GPY4 & GPY5

Program Path/Measure	Utility	GPY4 Deemed NTG Value	GPY5 Deemed NTG Value
Gas Optimization	PGL & NSG	1.02	1.02

Source: PGL-NSG Final GPY5 Consensus NTG Values 2015-03-01.xlsx

Evaluation Schedule

Table 3 below provides the schedule for the GPY4 evaluation of the C&I Gas Optimization Program. Adjustments will be made as needed as program year evaluation activities begin.

Table 3. GPY4 Evaluation Schedule

Activity/Deliverables	Plan Start	Completion/Delivery
Draft Evaluation Plan to PGL/NSG	March 20, 2015	May 22, 2015
Final Evaluation Plan to PGL/NSG		
In-depth Interview with Program Staff	March 1, 2015	April 30, 2015
Early Data Review	May 1, 2015	May 31, 2015
Final Data Delivery	June 1, 2015	July 1, 2015
On-Site M&V Audit	May 1, 2015	August 30, 2015
Engineering File Review	May 1, 2015	August 30, 2015
Gross and Net savings Verification	June 1, 2015	September 30, 2015
Internal Report for Review	September 25, 2015	October 9, 2015
Draft Report to PGL/NSG and SAG	October 9, 2015	October 20, 2015
Draft Comments in 10 Business Days	October 20, 2015	November 3, 2015
Final Report to PGL/NSG and SAG	November 3, 2015	November 16, 2015

Three Year Evaluation Plan

We have prepared a *proposed* three year evaluation plan summary to identify tasks (Table 4) and allocate budgets by year on a preliminary basis. Final activities and allocations will be determined annually as program circumstances are better known. Gas Program Year (GPY) refers to the year of participation that will be researched, not the time that the research will occur.

GPY6 NTG Research Approach

The evaluation team will conduct NTG research through interviews with GPY6 program participant customers and trade allies to determine free ridership and spillover to inform NTG recommendations for GPY8 and beyond. The research will provide an adjustment for free ridership (the portion of impact that would have occurred even without the program) and spillover (the portion of impact that occurred outside of the program, but would not have occurred in the absence of the program).

Participant free ridership will be calculated using an algorithm approach based on survey self-report data. The analysis will rely on interview results from all participant customers who implemented gas optimization measures. Project-level free ridership values will be determined by weighting with the ex ante gross annual therm savings for each project to get program level NTG value.

The existence of participating trade ally spillover will be examined using survey self-report data. The evaluation team will attempt a census survey on all trade ally participants. Trade allies and other contractors will be asked about their total sales of gas optimization services. This number will be used to calculate an overall increase in the sales of program qualified measures. Spillover will be calculated from the sales of qualifying savings that does not receive an incentive from PGL/NSG multiplied by the program influence scoring from the survey responses.

In an effort to facilitate survey efforts and ensure a timely completion, the evaluation team will conduct both the participant and trade ally surveys concurrently. Program influence on participating customers through interviews with trade allies will be conducted in GPY6 if triggered by customer NTG responses for the largest projects, or with contacts identified for multiple smaller projects. The Gas Optimization Program NTG ratio will be calculated using the following algorithm.

$$NTGR = 1 - Participant\ Free\ Ridership + Participant\ Spillover + Trade\ Ally\ Spillover$$

Process Evaluation

No process research has ever been made to study the Gas Optimization Program marketing and delivery strategies. The NTG research survey scheduled for GPY6 will include a set of process questions to provide feedback from participant customers and trade allies about satisfaction with the program, barriers to participation and suggestions for improvement.

The following research questions will be investigated during GPY6 surveys to determine the key process strength and weakness.

1. Has the program been successful in recruiting additional participants? In what ways can the program increase the customer participation? Are customers satisfied with the program?
2. What additional measures can the program introduce to drive market participation?

3. Has the program been successful in recruiting additional trade allies since GPY3? Are trade allies satisfied with the program? In what ways can the program increase the trade ally participation?
4. How can non-participating trade allies be encouraged to participate in the program? How can training opportunities (e.g. focus group discussion) be better to increase trade ally participation?

Table 4 presents the three year evaluation plan summary to identify tasks by year on a preliminary basis.

Table 4. Three Year Evaluation Plan Summary for Gas Optimization Program

Activity	GPY4	GPY5	GPY6
Gross Impact Approach	Engineering File Review/ On-site M&V	Engineering File Review/ On-site M&V	Engineering File Review/ On-site M&V
Gross Sampling Frequency	One Time	One Time	One Time
Net Impact Approach	Deemed Value	Deemed Value	Deemed Value
NTG Research Approach	None	None	GPY6 Participants
NTG Research Timing	None	None	One Time, GPY6 participants
Telephone Survey	None	None	FR, SO, Process (All participants)
Process Research Approach/Timing	None	None	One Time, GPY6 Participants
Program Manager and Implementer Interviews/ Review Materials	Yes	Yes	Yes
Participating Trade Ally Survey	None	None	SO, Process (All Participants)