Guide for Benchmarking Residential Program Progress with Examples

Current State of Affairs

- Each program makes independent decisions on how to collect, transfer, store and analyze program data.

- Regulatory and organizational oversight also specify what data to track and measure.

☺ The intended purpose is achieved

☹ Aggregating program results within a state, region or nation is difficult because of different:

  - Definitions
  - Data collection and transfer efforts
  - Program costs categories
  - Methods to estimate energy savings

☹ Comparing results to another program is difficult because of information mismatch.

Resources Addressing Data Challenges

Data Collection & Transfer Challenges

- **Building Energy Data Exchange Specification (BEDES)**
- **HPXML** – a Building Performance Institute standard for Home Performance-Related Data Transfer and Home Performance-Related Data Collection
- **Green Button** – a common-sense idea that electricity customers should be able to securely download their own energy usage information from their utility or electricity supplier.

Data Aggregation and Storage Challenges

- **Standard Energy Efficiency Data platform**

Data Analysis Challenges

- **Guide for Benchmarking Residential Energy Efficiency Program Progress**
- **Buildings Performance Database**

Guide for Benchmarking Residential Program Progress

Step 1

Use Program Goals to Guide Benchmark Planning

Step 2

Identify Potential Metrics that Measure Your Goals

Step 3

Determine How You Will Collect Information

Step 4

Assess the Level of Effort and Finalize Metrics

Step 5

Put the Process in Place and Get Started!

Step 6

Share Results Effectively

Step 7

Consider Benchmarking Against Peer Programs

- The Guide provides step-by-step guidance for setting up an effective Benchmarking process – follow these steps to:
  - identify metrics that will provide useful information to strengthen your programs;
  - put an effective process in place to collect, track, and analyze data;
  - develop benchmarks that reflect your program performance across time and in comparison to others; and
  - report about your performance in effective ways.

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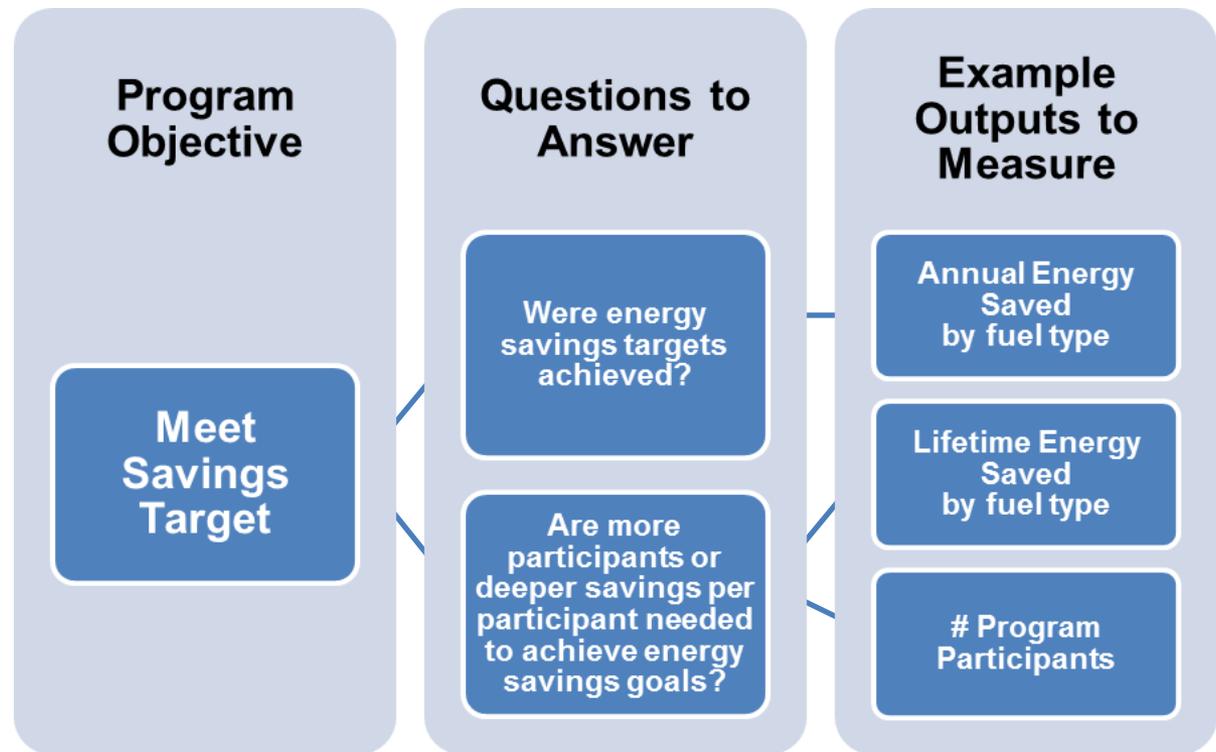
Guide Overview

The Guide also provides:

- Recommendations for metrics –
  - Standardized definitions to increase comparability
  - Recommended metrics to chart program outcomes
  - Normalized metrics useful for comparing year-to-year and for peer benchmarking

- Peer Group Benchmarking Examples from the Better Buildings Neighborhood Program

- Additional Resources and References

Keeping program objectives front and center as you design a benchmarking strategy provides a focus for making decisions

- Re-visit your program objectives

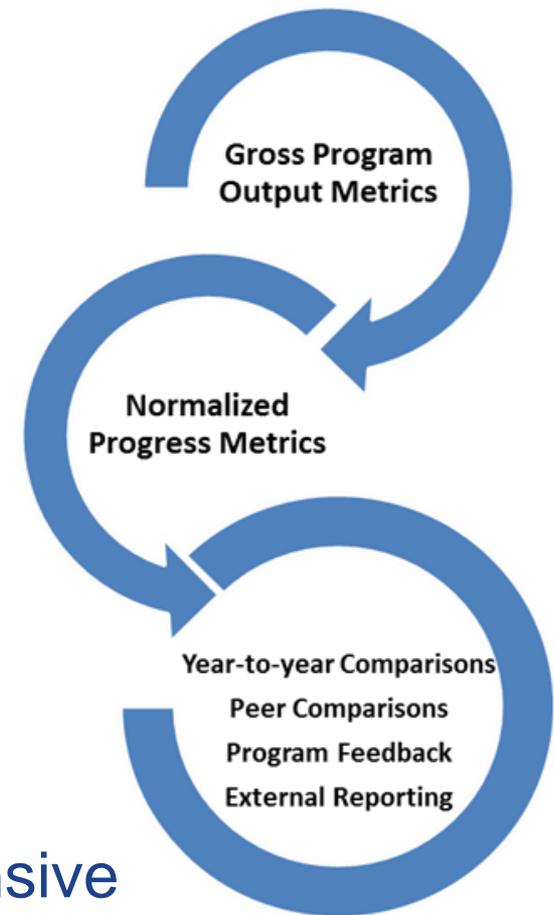- Prepare a list of questions relevant to those objectives

Program Objective	Questions to Answer	Example Outputs to Measure
Meet Savings Target	Were energy savings targets achieved?	Annual Energy Saved by fuel type
		Lifetime Energy Saved by fuel type
	Are more participants or deeper savings per participant needed to achieve energy savings goals?	# Program Participants

Identify Potential Metrics that Measure Your Goals

Choose metrics to consider for your benchmarking plan

- Program output metrics
  - Basic descriptive information about your program
  - Have value as indicators of total program size and impact
- Metrics useful for progress or peer comparisons
  - Express in a relevant per-unit way, or *normalized*

Two Tables in Appendix present an extensive set of potential metrics to consider.

Gross Program Output Metrics

Normalized Progress Metrics

Year-to-year Comparisons
Peer Comparisons
Program Feedback
External Reporting

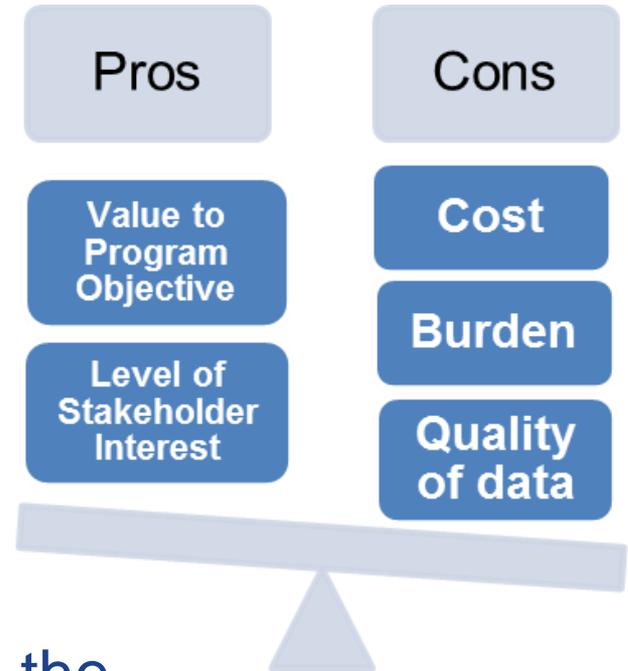# Determine How You Will Collect Information

- Review characteristics of effective data systems
- Outline your data collection and analysis needs
- Develop data collection procedures and identify tools

Metric	Data Needed to Calculate (Definition)	Data Collection Level	Data Owner	Collection Frequency
Step 2	**Step 3**			
EXAMPLE: Average customer monetary savings per upgrade across program	Estimated Annual Energy Bill Savings in Dollars	Per Home Upgrade Project	Home Assessor Contractor	Each Occurrence
	Unique Home Upgrade Project Identifier	Per Home Upgrade Project	Home Assessor Contractor	Each Occurrence
	Upgrade Completion Date (define this as the date of invoice)	Per Home Upgrade Project	Contractor	Each Occurrence

- Assess the feasibility, burden, and cost of data collection and analysis
- Consider the value and relevance of each metric

After this analysis, you should have the information needed to identify the most-effective ways to invest your benchmarking funds

Pros
- Value to Program Objective
- Level of Stakeholder Interest

Cons
- Cost
- Burden
- Quality of data

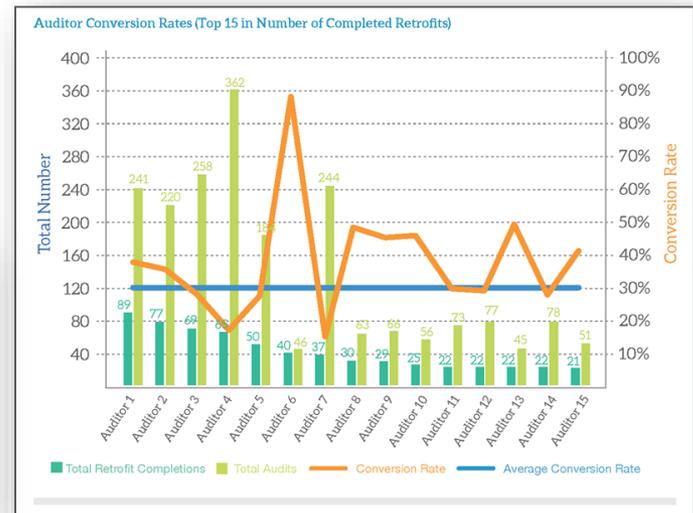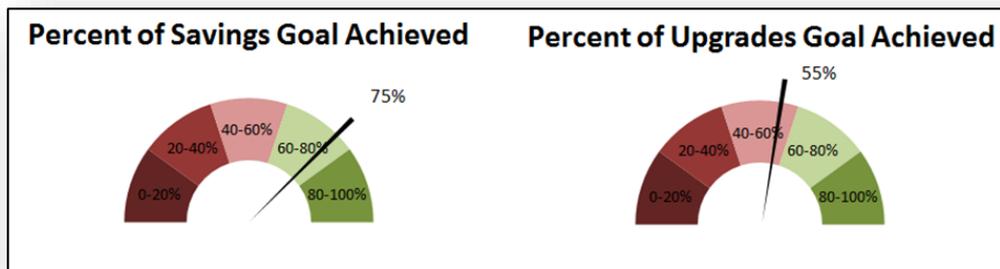# Put the Process in Place and Get Started!

- Secure buy-in from leadership, staff, and stakeholders

- Formalize your Benchmarking Plan – this will help:
  - map out the information and resources needed
  - communicate expectations to staff and stakeholders
  - provide specific direction for all parties to use as the project is rolled out

- Plan for feedback and change

- Launch your Benchmarking Effort

Share Results Effectively

The effort will be most beneficial if you effectively communicate to others not only your results but also the context of your progress in ways that are meaningful to them.

- Present information in effective ways
- Use appropriate levels of detail in your communications
- Provide context for your results

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Consider Benchmarking Against Peer Programs

- Consider the benefits and challenges of comparing your performance to others
- Best results come when:
  - Definitions, assumptions, and calculations for determining values are as standardized as possible
  - Comparisons are made to suitable peers

- To help address these challenges, Appendix A presents Recommended Benchmarking Metrics

- To provide some preliminary comparisons, Appendix B presents BBNP Peer Group Benchmarking Examples

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Questions?

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