

A Unique Approach to Evaluating Net & Gross Program Savings for a Commercial New Construction Program

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Program

Portland General Electric's 1995-96 Commercial New Construction program was evaluated.

Purpose of the Evaluation

The purpose of the evaluation was to measure net and gross first year energy savings and demand reduction associated with the program, by program year, building type and end-use.

Key Research Issues

The key issues addressed, which make this study unique, are the approaches used for:

- establishing the Energy Savings Baseline, and
- determining Free-Ridership and Net Savings.

The program baseline determination used a site-by-site approach. Each project file was reviewed in detail to develop the site specific baseline, or the "proposed" construction absent the program. In most cases, this "file" baseline was similar to the state energy code requirements. In some cases, however, the file baseline was more stringent than code.

Determining the Net Savings used a related site-by-site review and analysis. Detailed information about each site was reviewed to find evidence of free-ridership. Based on a preponderance of the evidence, the efficiency level of each measure was changed (or remained the same) to reflect what the customer would have done in the absence of the program.

Methodology of the Evaluation

Energy Savings Baseline

The evaluation relied on DOE-2 engineering analysis to calculate the gross program savings for the sampled sites. The DOE-2 input files were then revised to reflect "what would have been done absent the program." The models were re-simulated and the results were used to calculate net savings relative to a program baseline. The following simulation models were developed for each site:

As-built	Model of the building as found during the on-site
Code Baseline	Model of building with rebated measures set to minimum compliance levels.
Net Baseline	Model of building with measures set to efficiency levels that the customer would have installed in the absence of the program.

Free-Ridership Determination

A several step process was used to estimate free-ridership at each sampled site, using:

- Program files – an initial review was done of the program files to verify the program measures recorded in the tracking database. This initial review, established the initial baseline.
- Telephone surveys – decision-makers were asked about the specific program measures installed, their interactions with the utility and the influence of the program on their decisions.
- On-site surveyor observations – the surveyors reviewed the program files and telephone survey responses prior to the on-site, and recorded observations that supported or contradicted key findings.
- Feedback from program staff – we talked with the program rep. responsible for the project to get their recollections of the process.

The presentation discusses the pros and cons of this approach, discuss the overall procedure of the evaluation and discuss the applicability of this approach to other projects.