Unraveling the Tangled Web: Issues Confounding Net Savings Assessments in Non-Residential New Construction Programs

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Overview

The assessment of net savings in any energy efficiency program is fundamental to gauging program success. However, the quantification of net savings has unavoidable uncertainty, and even the best approaches are open for criticism and contention. One can measure what exists and, with sufficient foresight, what existed previously. However, one cannot measure what would have happened in an alternate universe where the program under scrutiny did not exist. Not only is there uncertainty in determining what would have transpired conceptually, but there is additional uncertainty in the quantification of the alternative scenario that is necessary to calculate the net savings of a given energy efficiency project.

Net savings assessments of retrofit programs are difficult and uncertain enough. However, the determination of net savings in new construction programs, especially non-residential new construction programs, have an additional host of confounding issues that make this market segment even more uncertain than the rest. This poster identifies and explores some of issues that are unique to non-residential new construction program that complicate the net savings assessment as well as other issues common to other programs.

Issues with the Self-Report Methodology

Incentive programs have played a vital role in the evolution of new construction practices toward greater energy efficiency. The influence of these programs is undeniable and profound. They have paved the way for the market viability of today's aggressive new construction codes and standards, and have avoided the construction of additional power generation. Given the life cycle savings of these projects, the existence of these programs is easily justified, but in today's regulatory environment, an exact estimate of power grid impact is demanded of program evaluators.

In order to do so, program evaluators must determine, to the best of their abilities, what the exactly what the project what have been in absence of the program. Previously, some evaluations have relied on the "difference of differences" approach whereby the efficiency of a similar population of projects that did not participate in the program was used to approximate what would have been built. However, in maturing markets, and locales with successful programs, a suitable non-participant population is not to be found. In these cases, the self reported net-to-gross approach is the only reasonable method of assessing net savings.

The self report approach is reliant upon proper identification of a "decision-maker" for the project and the memory of the decision maker complicated events that happened years ago. Additionally, the decision-makers responses to the net-to-gross survey may be clouded by their own hubris or their desire to perpetuate the program irrespective of the actual benefit to the public. Furthermore, even the projects in question returned an accurate decision maker survey; turning those answers into alternate quantified baseline require guesswork and assumptions. These are just a few of the issues that the poster illustrates.