

IN THE WORLD OF BASELINE DEVELOPMENT, ONE SIZE DOES NOT FIT ALL

Moderator: Christopher Frye, Northwest Energy Efficiency Alliance

PAPERS *(in order of appearance)*:

The Oracle Peers through a Window: Using a Delphi Approach to Estimate Impacts of Windows Programs

Noah Lieb, Apex Analytics, LLC
Sarah Castor, Energy Trust of Oregon
Erika Kociolek, Energy Trust of Oregon

Watch Your Next Step – Continuing Change in the Northwest New Homes Market

John Boroski, Evergreen Economics
Dr. Ted Helvoigt, Evergreen Economics
Anu Teja, Northwest Energy Efficiency Alliance
Christopher Frye, Northwest Energy Efficiency Alliance

The Humpty Dumpty of Heating: Piecing Together an Understanding of Ductless Mini-Split Heat Pump Usage in the Northeast

Danielle Vitoff, Navigant
Matt Nelson, Eversource Energy
Justin Spencer, Navigant
Terese Decker, Navigant
Ken Seiden, Navigant
Andy Machado, Cadmus

SESSION SUMMARY:

Evaluators have a variety of tools available to them in the development of baselines associated with product adoption or assessing the influence of a program. Establishing an accurate baseline is critical to ensuring that savings calculations associated with energy programs are also accurate. Development of baselines from a quantitative standpoint can be a challenge in conditions where data availability is an issue and in some cases can approach more of an art than a science. This session provides highlights of three efforts associated with establishing baselines that offer different methodologies and approaches; all have advantages and disadvantages. As is often the case, the context around baseline establishment is an important component in assessing whether or not their use is appropriate.

Lieb et al. provides a somewhat more traditional approach to establishing a baseline to characterize current market conditions, assessing the influence of a program and provide a forecast into future market conditions. The genesis of this work is based on the need for the Energy Trust of Oregon to establish a market transformation model for the residential windows market. Apex Analytics facilitated a Delphi panel, one conducted exclusively online. The Delphi process involves the recruitment of subject matter experts to provide their feedback and contribution to questions associated with current and future market conditions, in an initial round as a solo participant, with iterative rounds providing results across the panel with members potentially making changes to their initial responses based on viewing other member responses. The primary goals of the Delphi panel were to help Energy Trust establish a baseline for the current state of the efficient windows market, understand how past incentives have influenced the market, and project where the market is headed over the next five years. Findings showed the program has had strong market influence, and that there continues to be need for high-efficiency

window incentives to support the market. The success of the online Delphi panel shows that online panels may be considered when travel, costs, and logistics necessitate.

Boroski et al. describes a process of establishing a baseline based on the use of a survey instrument administered to homebuilders in the Northwest. The research was commissioned to support an initiative managed by the Northwest Energy Efficiency Alliance (NEEA) entitled Next Step Home. The initiative offers single-family homebuilders in Idaho, Montana, Oregon, and Washington another path to energy efficiency and market differentiation, with new homes expected to be at least 30 percent more efficient than state codes require. The survey of homebuilders covered respondent projections of expected future market share of Next Step Homes, integration of specific elements (e.g. ductless heat pumps, U.25 windows), and anticipated challenges. In particular, the survey solicited estimates of future market shares of these homes via two methods: open-ended questions preceded by a double-bounded question format, often used in willingness-to-pay analysis. The findings suggest that long-term (i.e., 20-year) market share for the full Next Step Home specification will range across the Northwest states from 12% to 20% without further market intervention by NEEA or its partner organizations. This paper will be of interest to evaluators wishing to learn more about methods for forecasting future market adoption from primary market actors.

Vitoff et al. presents an interesting approach to baseline development by describing a methodology whereby baselines are established for specific sub-segments of the population, or a “blended” baseline. The research supports the Massachusetts’ COOL SMART program, which offers incentives to participants for the installation of qualifying, high-efficiency Ductless Mini-Split Heat Pumps (DMSHPs). In 2014, a team composed of individuals from Cadmus and Navigant (the evaluation team) began an evaluation of this program. In the first phase of the evaluation, the focus of the current paper, online surveys and an on-site interview during logger installation were conducted with participants. Baseline development in this context was critical since an incorrect assignment of a standard efficiency DMSHP instead of a pre-existing technology in a retrofit situation could result in a significant negative impact to the program energy savings. Baselines were established based on answers to survey questions of the target population associated with purchase intention and participant use of the DMSHP. The paper presents the methodology of establishing baselines for each segment and the conclusions that a blended baseline, composed of a standard efficiency DMSHP and a variety of existing and alternative systems was the correct baseline for the COOL SMART DMSHP program.