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# *MEMO*

**Date:** February 13, 2008
**To:** Board of Directors
**From:** Philipp Degens, Evaluation Manager
Greg Stiles, Sr. Business Sector Manager
**Subject:** Staff Response to the 2004-2005 Building Efficiency Impact Evaluation

The Building Efficiency program (now renamed the Existing Buildings (EB) program) was very active in 2004 and 2005 providing incentives for measures in over 1,300 nonresidential buildings. The evaluation has shown that the program is running smoothly in the realm of delivering the predicted electric savings.

Realization rates of 99% and 104% were respectively achieved for electric measures in 2004 and 2005. These realization rates will be used in truing-up the 2004 and 2005 savings as well as calculating the reportable savings for 2007 and 2008. For lighting measures assumed hours and wattages tended to be quite similar to those found during evaluation site visits and metering. As a result future evaluations will commit fewer resources to validate these numbers.

In the area of gas savings the results vary a bit more, as the realization rate for gas measures was 95% in 2004 but only 75% in 2005. No specific overarching reason for this lower realization rate was determined as savings came from a variety of custom HVAC measures from a diverse group of buildings. The variability is attributed to the program still learning how to estimate gas energy savings. This parallels the commercial natural gas industry as knowledge of sizing of gas furnaces/boilers, system control parameters, and how systems are actually operated and maintained is still a growing field.

The results of the participant electric billing analysis were inconclusive in that the estimated drop in energy consumption after installation was far in excess of the savings that could be attributed to the measures installed. Energy Trust is in agreement with the evaluators that other factors are present that are reducing the electricity consumption of the participants. In the 2006-2007 program evaluation a billing analysis will also be performed. We hope that a larger sample and the inclusion of more building characteristics data will yield better results.

Participant satisfaction with the program was high in 2004 and 2005 with 85% of the surveyed participants stating that they were satisfied or very satisfied. Additionally participants representing over 21% of the savings reported that the program had influenced them to install additional energy efficiency measures for which they did not receive incentives. Market spillover rates from comparable studies were used in calculations of

reportable and trued-up savings. Program spillover will be researched in greater in the 2006-2007 evaluation through the use of nonparticipant surveys and inspecting measures that did not receive incentives when performing site visits.

The evaluation estimated a free rider rate of 16% and 20% for electric measures in 2004 and 2005. The 2003-2004 program process evaluation estimated a free rider rate of 17% which falls within the range of these two estimates. Gas measure free rider rates varied more from year to year with a 35% rate estimated in 2004 and 5% in 2005. With a greater number of participants and savings in 2005 we would expect the later estimate to be a better indicator of the free rider rate. These realization rates will be used in truing-up the 2004 and 2005 savings as well as calculating the reportable savings for 2007 and 2008.