**Follow-up to April 7th Response**

In the evaluation team’s response to Eversource’s preliminary comments on the draft R1983 report (sent April 7th), we committed to provide the following three items:

1. **Measure-specific gross realization rates** for direct comparison with the PSD’s current gross realization rates for air sealing and insulation.
2. **Billing analysis dataset**, including actual and weather normalized pre usage and post usage, program reported savings, pre/post R values, pre/post cfm, sq footage of insulation added.
3. **Representativeness,** a comparison of the HES and HES-IE participants included in the team’s billing analysis with the HES & HES-IE participants that were not included in that analysis and the overall population of HES & HES-IE participants.
4. **Measure-specific Gross Realization Rates**

The previously shared ex ante and ex post savings, as well as the resulting realization rates, assessed savings at the *participant level*. They summarized the reported (ex ante) and actual (ex post) savings for the average HES (or HES-IE) participant that installed insulation and air sealing (or just air sealing). This participant perspective aligned with the evaluation team’s billing analysis, which occurs at the participant level.

However, the PSD applies gross realization rates at the *measure-level,* not the participant-level*.*[[1]](#footnote-1) In other words, what is the appropriate gross realization rate that the Companies should apply to, for example, air sealing savings calculated using the PSD algorithm to align savings with the findings of the most recent HES and HES-IE impact evaluation?

While these participant- and measure-level perspectives are similar for R1983 given the team’s billing analysis segmentation (i.e., air sealing only and air sealing and insulation), they are different. This means it is necessary to convert the participant-level results to measure-level results before updating the PSD and/or directly comparing R1983 gross realization rates to the existing rates in the PSD. For R1983, this conversion focused on isolating air sealing and insulation savings for the participants that did both.

Table 1 below summarizes the *measure-specific* gross realization rates resulting from R1983. As communicated previously, the evaluation team recommends calculating gross realization rates – at either the participant- or measure-level – using the ex post savings and ex ante savings reported in the provided program tracking data.

Like the previous participant-level perspective, the measure-level gross realization rates show lower rates for air sealing and higher rates for insulation.

**Table 1: R1983 Measure-Specific Ex Ante, Ex Post, and Gross Realization Rates**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | HES (CCF/year) | | HES-IE (CCF/year) | |
|  | Air Sealing | Insulation | Air Sealing | Insulation |
| **Ex Post** (Billing Analysis) | 17 | 60 | 11 | 97 |
| **Ex Ante** (Tracking Data) | 102 | 119 | 106 | 211 |
| **Gross Realization Rate** | **17%** | **51%** | **10%** | **46%** |

Table 2 compares the gross realization rates determined through R1983 to those currently listed in the PSD, which are based on the previous impact evaluation. As evident below, the gross realization rates from R1983 are considerably lower for both programs and measures.

Once R1983 is finalized, the R1983 results will supplant the current PSD rates during the next PSD update.

**Table 2: Comparison of R1983 and Current PSD Gross Realization Rates**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | HES | | HES-IE | |
|  | Air Sealing | Insulation | Air Sealing | Insulation |
| **Current PSD[[2]](#footnote-2)** | 70% | 121% | 70% | 84% |
| **R1983** | **17%** | **51%** | **10%** | **46%** |

1. **Billing Analysis Dataset**

The evaluation team received the following request from Eversource:

*Is it possible to get an anonymized (or Eversource only) summary of the ex-post savings in an Excel format with values such as customer identifier, insulation type/air sealing, pre usage, post usage, savings reported, weather normalized calculated savings, pre/post R values, pre/post cfm, sq footage of insulation and any other fields deemed useful in such a review?*

Below is an embedded Excel file providing the requested information. Please refer to the ReadMe tab in the workbook, as well as our team’s previous response, for additional context.



1. **Representativeness**

The evaluation team received the following request from Eversource:

*While there were enough accounts available to generate statistically significant estimates at the statewide level, we would like to see validations showing the remaining customers left in the sample were representative of the HES and HES-IE populations.*

The Excel file embedded above also provides insights into this request. Specifically, the evaluation team compared participants in the final billing analysis dataset to those not included on the following basis:

1. **Building Characteristics.** (e.g.,averageheated square footage and building age)
2. **Usage.** (e.g., pre-program energy consumption and program reported savings)

As demonstrated and noted in the workbook, the evaluation team identified minimal differences between the participants included and excluded in the billing analysis and even smaller differences when comparing participant to the population of participants with available data. These comparisons confirm that the customers included in the billing analysis are representative of HES and HES-IE participation overall.

1. Table A3-4 in the 2022 PSD [↑](#footnote-ref-1)
2. Per Table A3-4 in the 2022 PSD: HES & HES-IE Blower Door Air Sealing, Gas: 70%, HES Insulation, Gas: 121%, HES-IE Insulation, Gas: 84% [↑](#footnote-ref-2)